THE PRINCIPLES & PRACTICE OF TEACHING

A MANUAL OF METHOD FOR PUPIL-TEACHERS & ASSISTANT MASTERS

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THE PRINCIPLES AND PRACTICE OF TEACHING,

A MANUAL OF METHOD FOR PUPIL-TEACHERS AND ASSISTANT MASTERS.

INTENDED FOR THE
GOVERNMENT INSPECTED SCHOOLS OF GREAT BRITAIN AND IRELAND,
AND FOR THE USE OF STUDENTS IN TRAINING COLLEGES.

BY

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PREFACE.

FULLY one-half of this little treatise has already been published under the title of "MANUAL OF METHOD," and has met with a fair measure of appreciation at the hands of those young people for whose special benefit it was at first prepared.

The necessity for a fifth edition having arisen, it seemed a wise thing that the author should widen the field of professional inquiry so as to embrace, in a somewhat rudimentary form at least, those subjects which, within the last year or two, have been introduced into the syllabus for *School Management* for the Certificate Examination of both first and second year's students.

With this end in view those portions of the book which treat of "*The Training of the Senses and the Memory*," the "*Order in which the Faculties of Children should be Developed*," and the "*Reasoning Processes*," have been written in a popular style so as to be in harmony with the elementary character of the work.

This reconstruction of the scope of the book has necessarily suggested a fresh title, so as to preserve its logical unity and accentuate the wider area of professional study over which it extends.

The subject of Mental Science is one of increasing importance and value to all workers in the educational field, and no excuse is necessary for its introduction into our pages, though in a brief and elementary shape.

The author sincerely hopes that, with the additional chapter on *Registration*, and the digests of several recent *Department Circulars* in the form of appendices, this little work will be found highly useful to the youthful students preparing for the Queen's Scholarship and Certificate of Merit Examinations. As a humble contribution to a most important and valuable department of professional study the author has been induced to prepare this treatise, and in this spirit he seeks for a generous consideration from his professional brethren.

ALBION SCHOOLS, ASHTON-UNDER-LYNE,
January, 1886.

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THE
PRINCIPLES AND PRACTICE
OF TEACHING.

I.—TRAINING OF THE SENSES AND MEMORY.

1. INTRODUCTORY.

Professor Sully says, "Education is concerned not simply with instruction or communicating knowledge but with the training of faculty." It seems, therefore, hardly necessary to add that mental science "enlarges the teacher's notion of education by showing him what a complex thing a human mind is, in how many ways it may grow, how many influences must combine for its full exercise, and how variously determined is its growth by individual nature." There is not the slightest doubt, we might further observe, that mental science is capable of supplying those truths which are so much required for a reflective and intelligent carrying out of educational work. A teacher, therefore, who has in some measure assimilated the "leading truths of mental science, may be aided by these to some extent in the smallest details of school management."

The value and importance of a knowledge of this subject, to our younger teachers especially, need hardly be insisted upon; and most educationists will recognize with much satisfaction the fact that mental science is now, though in a somewhat rudimentary form, included in the syllabus laid down for the examination of students, both in the first and second year, for certificates of merit.

To these remarks we can suppose one saying, "It is true that the teacher should know human nature in the concrete, but it is questionable whether he should study the science of the phenomena of mind. Have not a great number of the best teachers never troubled themselves about the phenomena of human nature, and never read a treatise on mental science, but, guided by their instinct and their tact, did the right thing at the right time, and so made men and women of their pupils?"

All this, we readily admit, is very plausible and has an appearance of truth about it. Still we unhesitatingly affirm that though many really good and excellent teachers may have never even read a treatise on mental science, as handled by philosophical writers, yet the tact they have exhibited, the influence they have had over the youthful mind, the very power they have shown in the great success attending their professional labours, are all undoubtedly traceable to "a kind of underclassed knowledge of the laws of mind which the educator possessed, and which his enthusiasm and devotion to the work strengthened and intensified."

2. THE SENSES—GATEWAYS OF KNOWLEDGE.

It is not our intention to enter on the discussion of the senses from a purely physiological stand-point—this is not the object we have in view. Our purpose, guided by the *principle* underlying the syllabus to which reference has already been made, is rather to recognize them as "gateways of knowledge," and ascertain in what way the educator should use them in harmony with the principles of true teaching, so as to secure the largest measure of intellectual and moral discipline.

3. THE MIND—WHAT IS IT?

It is of the very utmost importance in our study that we should have clear and definite notions of the general framework at least of that science within whose borders we are now about to enter. Our success depends upon the correctness of our ideas of fundamental principles. Without such a knowledge we are to all intents and purposes "endeavouring to train faculties of which we know little or nothing, by methods, the laws of which we know even less," and we shut ourselves up to the hope—foolish though it may be—"that things will somehow or other come out right in the end."

"Mind," says Professor Sully, "is non-material, has no existence in space as material bodies have. We cannot touch a thought or a feeling, and one feeling does not lie outside of another in space. These phenomena dwell in time only. Mind is thus the inner smaller world as distinguished from the external and larger world."

There is a popular as well as a scientific use of the term *mind* which we will simply mention.

Thus we frequently make use of the expression, "A man of mind," when we wish it to be understood that such a person is a "man of intellect." In this popular sense the term mind is simply "identified with knowing or intelligence." We mention this in order to avoid any misapprehension.

Let it be clearly understood that when we use the term mind in connection with the study of mental science, we refer to "the phenomena of mind," with mental states, or whatever else we may choose to call them.

The teacher is concerned not with what mind is in itself as a substance—which falls within the province of philosophy—but is more concerned with the way in which "it operates, the laws of succession and dependence which govern mental phenomena," and the theories "of mental growth or development," and this simply because "education in all its branches is engaged in producing some mental result."

Keeping this steadily in view let us now proceed to analyse or classify the mental powers or the principal modes of mental action.

4. MODES OF MENTAL ACTION.

Professor Bain distinguishes three properties of mental action:*—

(*a*) *Discrimination*, or the consciousness of difference.

(*b*) *Retentiveness*—by which he means the basis of memory and habit.

(*c*) *Detection of Similarity*, or the consciousness of agreement.

In this arrangement of the properties of mental action we would point out, for the guidance of our readers, that only the intellectual faculties are recognized, the "feelings and volition of will being entirely excluded."

The teacher ought, therefore, never to forget that "to give bodily vigour and intellectual ability, without any moral foundation to the character, is to give an education not only wanting in completeness, but in balance; an education which may be mischievous both to the individual and to society."

Professor Sully also adopts a threefold division, but differing very materially from the method followed by Professor Bain:

(*a*) The *Intellectual* faculties.
(*b*) The *Feeling* or *Emotional*.
(*c*) The *Willing*.

Under the *Intellectual* Mr. Sully includes all operations which are directly involved in knowing, as, for example, observing what is present to the senses, recalling the past, and reasoning.

By the *Emotional* he includes "all pleasurable and painful conditions of mind," such as sorrow, anger, love, joy, or "even the bodily distress of hunger, or the pleasures of the palate."

The *Willing*, again, by this arrangement, "covers all active mental operations, all our doings, such as walking, speaking, attending to things, together with efforts to do things, active impulses and resolutions." The "perfect type of action is doing something for an end or purpose."

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* Professor Bain, *Senses and Intellect.*

While recognizing this threefold division, Mr. Sully, in his elaborate work on *Psychology* is careful to show that while *knowing*, *feeling*, and *willing* are "marked off from, and even opposed to, one another, they are in a way closely connected.

"If we closely examine any case of feeling," he says, "we find some intellectual and volitional accompaniments. Thus when we experience a bodily pain (feeling) we instantly localise the pain or recognize its seat (knowledge), and endeavour to alleviate it (volition)."

As education is engaged with exercising the faculties of the mind, and as our object is to restrict ourselves as far as possible to the *Syllabus* of the "Education Department," we would remark that a good *working division* of the principal modes of mental action may be that which is ordinarily recognized under the heads of (*a*) sensation, (*b*) perception, (*c*) conception, (*d*) attention, (*e*) memory, (*f*) imagination, (*g*) reason, (*h*) judgment, and (*i*) reflection, all which may be included, for practical purposes, under the general term of

5. THE INTELLECTUAL FACULTIES.

These faculties conduce to man's development by communicating to him a knowledge of his own internal sensations, and also of the external world; their object being "to know existence, and to perceive qualities and relations."

Psychologists differ very widely as to the divisions under which the study of the Intellectual Faculties may be considered. Perhaps it would serve our purpose in a practical way if we adopt a threefold division, though we are aware that some modern writers on mental science would be inclined to characterize this as somewhat antiquated.

We propose, therefore, briefly to discuss the subject with reference to (*a*) *The External Senses;* (*b*) *The Internal Senses* or *Perceptive Faculties;* and (*c*) *The Reflective Faculties.* We are, however, more concerned with the first two of these, and, therefore, our observations on the last shall be somewhat more brief.

6. THE EXTERNAL SENSES.—EXPLANATORY.

"All knowledge," says Professor Sully, "takes its rise in the senses. No intellectual work such as imagining or reasoning can be done till the Senses have supplied the necessary materials." In other words, it is by means of the senses that both men and animals are brought into communication with the external world. It seems hardly necessary to add that the "external organs of the senses do not form ideas."

A familiar illustration will bring out what we mean by this observation.

> "When an impression is made on the hand, it is not the nerves of touch which form the *conception* of the object which has made the impression; the nerves of touch merely *receive* that impression and communicate it to the brain. It is, therefore, through the brain, by the impression, that an internal faculty of the mind perceives or forms an idea of the object by which the impression was caused."

At the same time the truth is clearly brought home to us that, without the nerves of feeling "the internal faculty could not experience the perception, because the medium between it and the object would be wanting."

Sense.—We have now reached that point at which we are naturally enough disposed to inquire into the meaning of the term *Sense*, and such other terms closely related to it as *Sensation* and *Sensibility*.

According to Mr. Sully a *sense* consists of the sum total of simple mental states of a particular order, as when we speak of the sense of sight, of sound, and so on. In other words, when some sense-organ is stimulated through its specially constituted nerve-structure, as those relating to the eye or the ear, we have a simple mental state arising therefrom which we term the sense of sight, of hearing, &c. Each group of nerves answering, as a matter of course, "to its own class of stimuli."

Sensation.—We must consider, as we have before remarked, that the senses are merely reporters, "and it depends on the mind whether the communications are made use of or not." A sensation has been defined, accordingly, as "the mental side of a sense-impression."

Sir William Hamilton in his *Lectures on Metaphysics* contrasts sensation as *feeling*, with perception as *knowing;* —"the pleasurable or painful aspect or accompaniment of a sense-impression is best marked off by the term "sense-feeling."

> Professor Sully adds: "An examination of our most abstract notions, such as force, matter, leads us back to those impressions (sensations). Our ideas can never go much beyond our sensations. The want of a sense, as in the case of one born blind, means depriving the mind of a whole order of ideas. The addition of a new sense, if that were possible, would enrich our minds by a new kind of knowledge respecting the world."

Sensibility.—This is a term which is capable of a double signification—the one physical and the other psychological. We frequently employ it to denote the quality possessed by the agency by which sensations are produced, as when we speak of "the sensibility or sensitiveness of the skin, and of the retina of the eye." Mr. Sully insists that sensibility is a property belonging to the mind and not to the body at all. He defines it, therefore, as the mind's capacity of being acted upon or affected by the medium of the stimulation of a sensory nerve, and, in his opinion, is simply another name for the mind's capability of having sensations.

> "We have no verb in our language," says Professor Brown in his *Lectures on the Philosophy of the Human*

Mind, "which exactly denotes what is expressed in the substantive noun (sensation). To feel is, in its true sense, either (*a*) much more limited, or (*b*) much more general.

In its confined or restricted meaning it refers to the sensation of one organ, viz., that of *touch*. As a more general word, it is applied to all the varieties of our consciousness, as much as to the affection of our organs of sense. In the wide use of the term, therefore, we are said to feel indignation, love, surprise, as we are said to feel the warmth of a fire or the coldness of snow."

7. THE PHYSICAL SENSES.

These are Smell, Touch, Taste, Sight, and Hearing, each with its special manner of stimulation by its own "particular kind" of nerve-structure, or as Professor Sully terms it, "end-organ." Sir William Hamilton would except Touch from this *special* classification, and would recognize Touch as "the fundamental sense out of which the other and special senses are developed."

In two of our senses, viz., those of touch and taste, there must be an immediate application of the object, or of some medium which passes between the object and the organ. In the other three the object is perceived at a distance, but still by means of a medium, by which some impression is made upon the organ.

"The effluvia of bodies," says Dr. Reid, "drawn into the nostrils with the breath are the medium of smell; the undulations of the ear are the medium of hearing; the rays of light passing from visible objects to the eye are the medium of sight. We see no object unless rays of light come from it to the eye. We hear not the sound of anything unless the vibrations of some elastic medium, occasioned by the tremulous motion of the sounding body, reach the ear. We perceive no taste unless the sapid body be applied to the tongue or some part of the organ of taste. Nor do we perceive any tangible quality of a body unless it touch the hand or some part of our body."

Diderot, one of the most active and original of the famous group of French men of letters in the middle of the eighteenth century, makes use of a very interesting illustration in his *Letter on the Deaf and Dumb*,* which we here quote as extremely appropriate to our subject:—

> "What a strange society would five persons make, each of them endowed with one only of our five different senses, and no two of the party with the same sense. There can be no doubt that, differing, as they must differ, in all their views of nature, they would treat each other as madmen, and that each would look upon the others with all due contempt. It is, indeed, only an image of what is happening every moment in the world; we have but one sense, and yet we affect to judge of everything. There is, however, one science, though but one science, in which the whole society, or the different senses might agree—the science which has relation to the properties of number. They might each arrive, by their separate abstractions, at the sublimest speculations of Arithmetic and Algebra; they might fathom the depths of analysis, and might propose and resolve problems of the most complicated equations."

The five senses vary very considerably in "degree of definiteness," or in the "number of distinct characters" which they possess. Professor Sully, as well as Dr. Bernstein of Halle, speak of Taste and Smell as the coarse or unrefined senses, and of Hearing and Sight as highly refined. According to their degree of refinement, Mr. Sully therefore arranges them in the following ascending order:—Taste, Smell, Touch, Hearing, Sight.

We propose offering only a few brief observations on each of these in order to suggest such lines of treatment as might best be adopted in the "Training of the Senses" in a subsequent part of this little work.

(1) TASTE.

Respecting the *nature* of this sense, science can, as yet, give us but little information. We are, of course, certain of one thing, that "the tongue is the principal seat of the organ of taste. The tip of the tongue as well as the back and root seem to possess the sensation of taste more acutely, and the under surface of the tongue possesses none whatever, or at least if it has any at all it must be of a very dull, blunt kind." Mr. Sully very pertinently observes that the function of taste is to determine what is wholesome or unwholesome for the benefit of the organism as a whole. Hence we find it at the entrance of the digestive cavity, and "acting as a sentinel to warn us as to what is good or ill."

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* *Œuvres*, tom. ii. p. 12.

(2) SMELL.

In whatever forms of life the sense of Smell may be met with, this sense endowment seems to be always very largely related to the detection and capture of food, and apparently occupies a strictly intermediate position between those of Taste and Sight.

> "Up to the present time," says Dr. Bernstein, "science has not been able to offer any explanation of the existence of the different kinds of sensations of smell, or what difference there is between the irritations produced by good and bad smells."

We ought to remark that there is a wonderful harmony in our organization in the fact that nearly all substances with a bad smell have an injurious effect upon the body.

Professor Sully is of opinion, owing to the great fluctuations, temporary and permanent, to which both Taste and Smell are liable, that they are of little importance as "knowledge-giving senses." Without entirely questioning this remark we might yet observe that the organ of smell is a very important protection to the entire organism by preventing the entrance of many injurious bodies.

(3) TOUCH.

This is generally spoken of as the simplest of all the sense-organs, and may be described as the sensation produced by the contact of the organ and the object of perception. It is a fact known to all that the power of touch is not equally developed in all parts of the body, but is fully so in the hands, no doubt since we use these organs for the purpose of touching objects.

> "Dr. Bernstein observes: "The hand, by means of its mobility and its articulated structure, is more especially adapted for the purpose of touching objects than all the other parts of the body; and it is a general fact in the animal kingdom, that all organs adapted for touching are endowed with the greatest mobility, such as the feelers of an insect, the trunk of an elephant, and the tongue of all animals."

He very properly, therefore, concludes it is extremely natural that the members most capable of motion should possess the finest sense of touch, and that it is very likely developed by use, and probably, too, transferred by inheritance.

It is of importance, in our consideration of this sense in relation to its training, to remember that we owe to the sense of touch a perception of those conformations of a body according to which we call it rough or smooth, hard or soft, sharp or blunt, while the "repose or motion of a body" is also perceived through the same sense.

(4) HEARING.

"The Sense of Hearing," says Professor Sully, "ranks high as an intellectual or knowledge-giving sense," and teachers will at once appreciate the truth of the observation.

Like the sense of Sight and that of Smell, Hearing even in its simplest grades serves to bring "the organism into relation with more or less distant bodies." Dr. Bernstein beautifully observes, "Sound can penetrate the thickest walls and travel by the most circuitous paths, so that in the deepest mines, where no light can penetrate, the ear gives us certain information of the existence of an exterior world."

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If it were necessary to prove that hearing possesses a highly intellectual character, we might point to the fact of the delicate discrimination it shows in recognizing "the smallest difference in our musical scale."

> Professor Sully remarks: "The delicate and far-reaching discrimination of quality, aided by the fine discrimination of duration, enables the ear to acquire a good deal of exact information, as well as to give a considerable amount of refined pleasure. The delight of music sums up the chief part of the latter. The former is illustrated in the wide range of knowledge derived by way of that system of articulate sounds known as language."

(5) SIGHT.

The sense of Sight is, without doubt, the most far-reaching, and leads to the most numerous and vivid conceptions, and is, by common consent, "allowed the first place in the scale of refinement."

Colour is the proper object of sight, and whether *extension* be an object of sight has been keenly discussed by such distinguished authorities as Sir William Hamilton, Dugald Stewart, Bishop Berkeley, Dr. Reid, Dr. Brown, Dr. Priestley, and others, and with very varying opinions. Perhaps the arguments advanced by Sir William Hamilton are the most logical, and we give them here for the satisfaction of our readers.

> "All parties are, of course, at one in regard to the fact that we see colour. Those who hold that we see extension, admit that we see it only as coloured; and those who deny us any vision of extension, make colour the exclusive object of sight. In regard to this first position, all are, therefore, agreed. Nor are they less harmonious in reference to the second: that the power of perceiving involves the power of perceiving the difference of colours, and by sight we, therefore, perceive colour, and discriminate one colour, that is, one coloured body,—one sensation of colour from another. This is admitted. A third position will also be denied by none, that the colours discriminated in vision are, or may

> be, placed side by side in immediate juxtaposition; or, one may limit another by being superinduced partially over it. A fourth position is equally indisputable,—that the contrasted colours, thus bounding each other, will form, by their meeting, a visible line, and that, if the superinduced colour be surrounded by the other, the line will return upon itself, and thus constitute the outline of a visible figure. These four positions command a peremptory assent; they are all self-evident."

We must not omit to mention here, as it is sure to form a topic of remark when we take up the "Training of the Senses," that the method by which we judge of distance was formerly supposed to depend "upon an original law of the constitution, and to be independent of any knowledge gained through the medium of the external senses." Most scientists are now agreed that our whole information of visual distance is acquired by experience and association.

8. MUSCULAR SENSE.

This is a subject that we content ourselves by merely mentioning. It is one which has been most carefully discussed by Mr. G. H. Lewes in his *Problems of Life and Mind*, and by Dr. Bastian in his work on *The Brain as an Organ of Mind*, by Dr. Bain, and others, to whose writings we would refer our readers.

We might, however, add that Professor Sully considers that the Muscular Sense occupies a peculiar place and cannot be classed with the five senses. "The Muscular Sense is not detached," he says, "from the special senses, but enters into combination with these, and more especially with the senses of touch and sight."

Perhaps a simple illustration may explain what is meant by Muscular Sense better than any elaborate scientific forms of expression. *Walking-erect* is an automatic action, and there is no doubt that every child would acquire the habit without either teaching or example. Yet this "acquirement depends upon the

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establishment of a very complicated set of relations" between the perception of the senses, and the "respondent" contraction of the muscles. We are able to balance our body only in a great degree as our movements are prompted by this Muscular Sense. Mr. H. Mayo refers to what happens to a landsman on first going to sea. "It is long before a passenger acquires his *sea-legs*," he says. By and by, however, he stands on his Muscular Sense "when he learns to disregard the shifting images and changing motions," and to adapt himself, like a man on horseback, to the different "alterations."

9. THE INTERNAL SENSES OR PERCEPTIVE FACULTIES.

MEMORY.

In our common language, in speaking of the faculty of Memory, the similitudes and comparisons we employ are, as Professor Dugald Stewart in his *Philosophical Essays* observes, "both numerous and incongruous." At one time we liken it "to a *receptacle*, in which the *images* of things are treasured up in a certain order; at another time we fancy it to resemble a *tablet*, on which these images are stamped more or less deeply; on other occasions, again, we seem to consider it as something analogous to the *canvas* of a painter."

> Locke on *The Human Understanding*, uses the following language, which bears the statement of the professor's very fully out: "Methinks the understanding is not much unlike a *closet*, wholly shut up from light, with only some little opening left, to let in external visible resemblances, or ideas, of things without. Would the pictures coming into such a dark room but stay there, and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight, and the idea of them."

Dr. Abercrombie in his very interesting work *Inquiries* *concerning the Intellectual Powers*, is very careful to draw a distinction between **Memory** and **Recollection**. By Memory we retain the impression of facts or events—by Recollection we recall them into the mind by a voluntary effort. There is yet another function or power of the mind standing closely related to each of these two, viz. **Conception**, which may be described as the power of recalling perceptions, or the impressions of actual scenes, persons, or transactions.

Conception then is a modification of memory, as by it, for example, a painter can draw "a landscape or a building long after he had visited them, and even the portrait of a friend who is dead or absent."

> A very beautiful illustration of the power of conception occurs in the life of Niebuhr, a very distinguished Danish traveller. When old, blind, and much enfeebled, as he lay in bed he told his friends that "the pictures of what he had seen in the East continually floated before his mind's eye, and he could speak of them as if he had seen them yesterday. The deep intense sky of Asia, with its brilliant and twinkling hosts of stars, was reflected in the hours of stillness and darkness on his inmost soul."

Conception can be used in a much wider sense, and will be afterwards referred to.

The revival, or reappearance of past states of mind by mere mental operations, is the subject of fixed laws, and these laws are known under various names. The points of real interest and practical importance in regard to memory "have respect to the manner in which it is influenced by the intellectual habits of individuals, and the principles on which it may be improved." To those engaged in the work of Education, for whose benefit this little treatise has been written, the most important points to consider are those referable to two heads, viz.:—Attention and Association.

Attention.—Dr. Abercrombie defines attention as a full and distinct perception of the fact or object with a view to its being remembered; and by the perception being kept before the mind, in this distinct manner, for a certain time.

The derivation of the word attention suggests to us at once its true psychological meaning—*ad*, to, *tendere*, to stretch; *i.e.* to stretch the mind towards. It clearly means to strain—a strained effort of the mind—and is, perhaps, the most important of the mind's activities.

Mr. Sully very quaintly says that attention is "somewhat the same as the mind's consciousness of what is present to it," but he is also careful to explain that *to attend* implies more than this—it is to "intensify consciousness" by forcing the mind in a particular direction "so as to make objects as distinct as possible." He also speaks of "diffuse consciousness" as opposed to the active tension of the mind in attention. This diffuse consciousness he further describes as "scattered attention," as being a "relaxed state of mind in which there is no effort to fix itself on any particular object."

The dependence of memory upon attention, and the power to recall at will our mental impressions and acquisitions, are perhaps directly in proportion to the attention with which the associations binding them together were formed. If these are feeble and loose, the mind will certainly have but a feeble and very imperfect control of its thoughts.

How true is it, therefore, that all thinking is but "an active state of mind involving a voluntary fixing of the attention, and, as a consequence, our actions are vigorous and precise in proportion to the amount of attention we give to them.'

In connection with this special aspect of our subject we might refer to the distinction between Attention and Interest, the Voluntary Attention, the Function of the Will in Attention, Concentration, and Habits of Attention, but probably we shall find it necessary to do so in another place when we come to treat of the Training of the Attention.

Association.—Dr. Carpenter, in his very elaborate treatise on *Mental Physiology*, describes Association as the formation of such a connection between two or more ideas, so that the presence of one tends to bring the other also before the consciousness—"or, in other words, that the one suggests the other."

Indeed, so important was the theory of Association in the eyes of old metaphysicians, that they boasted they were able to explain all the phenomena of the mind by its principles.

It is certainly a law of our mental nature that two or more mental phenomena which have *occurred* together tend to *recur* together. This mental process, according to Dr. Abercrombie, might be more correctly described under the term *Suggestion*, inasmuch as facts or thoughts suggest each other, not according to any connection or association, but according to some mental impressive emotion, which by a law of our constitution proves a principle of analogy or suggestion.

> An illustration from Dr. Abercrombie will show his method of reasoning. "Thus the sight of a remarkably fat man may recall to us the thought of another man we had lately seen, who was as equally remarkable for his leanness; the playfulness and mirth of childhood may suggest the cares and anxieties of after life; and an instance of conduct which we greatly disapprove may lead us to recollect how very differently another individual conducted himself under similar circumstances."

Professor Sully, in his singular, clear, and simple way of presenting his views, says with reference to Attention: "When an impression has been well stamped on the mind there remains a predisposition or tendency to reproduce it under the form of an image. The degree of facility with which we recall any object always depends in part on the strength of this predisposition. Nevertheless, the predisposition will not in ordinary cases suffice in itself to effect a restoration after a certain time has elapsed. There is a further need of something present to the mind to *suggest* the image or to remind us of the event or object."

> Mr. Sully then proceeds to give an illustration to render still clearer his true meaning. "Thus the sight of a place reminds us of an event which happened there, the hearing of a person's name of that person, and so on. Such a reminder constitutes the *exciting* as distinguished from the *predisposing* cause."

It is easy to perceive, therefore, that as some event or impression becomes associated with some other event or impression, we are in some way or other reminded of it more or less strongly, so that "we speak of association" as a very important condition of reproduction.

Dr. Brown refers the *Principles of Association* to four heads, and in this arrangement he is supported to a large extent by Sir William Hamilton, Professor Bain, and Dr. Carpenter. The heads are—*Resemblance*, *Contiguity*, in time and place, *Cause and Effect*, and *Contrast*.

According to these principles one thought may suggest another which has some relation to it, either in the way of resemblance, contiguity, cause, effect, or contrast. But it may very properly be asked, "What gives rise to the occurrence of one of these relations in preference to the others?" It is foreign to our purpose to attempt to discuss these principles, which are so elaborately worked out in the writings of Professor Bain—to whom Dr. Carpenter admits his deep indebtedness — and to whose work on *The Senses and the Intellect* we would refer our readers. By way, however, of explaining the meaning and application of these "heads," we will here reproduce one or two illustrations given by these writers, which we think will cover the ground we intend to occupy.

ASSOCIATION OF CONTIGUITY, OF SIMILARITY, OF CAUSE AND EFFECT, AND OF CONTRAST.

Previous habits of thought, and peculiarities of mental temperament, may be the cause on which the selection of one of the principles of association rather than another may depend. It may be, too, that in other cases associations may occur because they have been more recently formed, and are more lively, or have been more frequently repeated.

> "When the common topic of the weather, for example, is introduced in conversation, or presented to the mind, the agriculturist will naturally refer to its influence on vegetation; the physician to its effects on the health of the community; the man of pleasure may think only of its reference to the sports of the field; the philosopher may endeavour to seek for its cause in some preceding atmospheric phenomena; and another person of certain habits of observation may compare or contrast it with the weather of the same period in a preceding year. Thus, in five individuals, the same topic may give rise to five trains of thought, perfectly distinct from each other, yet each depending upon a very natural and a very obvious principle of suggestion."

Professor Bain's illustrations bring out the association of similarity, contiguity, and contrast perhaps much more strongly. *Contiguity*, according to him, "joins together things that are naturally juxtaposed, or that are, by any circumstance, presented to the mind at the same time. Present actions, sensations, thoughts, or emotions tend to revive their like among *previous* impressions, and which may be termed the principle of *Similarity*," though styled by Sir William Hamilton the Law of Repetition. It is also a well-known fact, too, that objects do, on many occasions, bring out before the mind their contraries.

> "An intense light will suggest darkness or shade; present sorrows will bring up past joys." For the same reasons a great number of contrasts are "habitually coupled together in common speech, and we thereby acquire a tendency to pass from the one to the other by mere rote, like completing a hackneyed form of words. Such associated couples as white and black, high and low, up and down, young and old, rich and poor, life and death, true and false, &c., are in everybody's memory; if one member is presented, the other is sure to turn up."

In the same way these principles might be illustrated —*similarity* suggesting *contrast* by *contiguity*. "We are moved by seeing infancy and age placed together; and the still greater contrast of life and death has a solemnizing influence. When, too, any quality is present in a painful excess, the opposite quality is unavoidably suggested as a remedy to the evil. Darkness, in this way, causes a craving for light, and too much light impels us to seek the shade."

10. INTELLECTUAL EDUCATION.—THE REFLECTING FACULTIES.

In the meantime it would be as well if we said a word or two on these faculties, so as to preserve the unity of arrangement, and by and by to dwell more particularly on the study of the laws of the development of our nature. The distinction between the knowing faculties and the reflecting faculties is one which our readers will easily enough appreciate.

(*a*) From what we have already said, it will be seen that the knowing faculties "furnish us with a knowledge of objects, their qualities and relations."

(*b*) The reflecting faculties, on the other hand, act on all the other sensations and motions. As Dr. Combe says: "They judge, not of the qualities and relations of external objects, but of the relation of different classes of ideas produced by the perceptive faculties. They minister to the direction and gratification of all the other powers, and constitute what we call reason or reflection."

We might, at this stage, ask the question, which probably is present to the minds of not a few of our readers, How can the reflecting powers best be cultivated? In a general sense we might reply that, like the faculties, they will best be cultivated by "that mode of exercise which makes them produce the most active manifestations."

The true educational principle by which we should be guided is that by which the *pupil himself* will be most actively employed.

Summing up at this point, let us observe:

1. That "mental education is an applied psychology."

2. That mental education has a science to regulate it.

Let us now inquire, so as to apply these two points, what are the functions of a science? This question is very beautifully met by an able writer on scientific subjects. He says that the functions of a science are two—

(*a*) "To bring the phenomena with which the science is concerned into groups, until the highest possible unity is reached."

A familiar illustration of this is seen, as the same writer goes on to observe, "in natural history, inasmuch as the natural historian is principally employed in tracing resemblances, and thus grouping the various objects of his observation into classes."

There is not the least manner of doubt that the psychology of "this country has been, for the most part, occupied with generalizations of this nature."

The various kinds of acts of the mind have been observed, and they have been grouped under such names as memory, judgment, reasoning.

Occasionally we find, more particularly the more modern writers on mental philosophy, employing such terms as *presentative*, *conservative*, *reproductive*, *representative*, *elaborative*, and *regulative*, in reference to the mental faculties; these latter being used when the existence of separate and distinct powers of the mind identified with memory, judgment, and reasoning have been denied.

Once more it has been remarked by Dr. Donaldson that the great effort of psychologists has been to ascertain what have been the laws of thought; but by the laws of thought they do not mean the regular and fixed activities, in which the mind produces thought, but the highest generalizations of all the individual products of thinking.

Now we need hardly remark that these laws can never be of any use in education, and this is admitted by professed metaphysicians. Mansel, in his work on *Metaphysics* says:— "Supposing that the act of thinking is governed by general laws (and that it is so is manifest from the inability to conceive absurdities), such laws can clearly impart nothing in the way of instruction, or the discovery of new truths."

It is quite impossible, therefore, for the practical educator to get the least benefit from "the discussion of insoluble problems."

(*b*) The other function of science "is from known and ascertained phenomena to form generalizations which shall explain and account for other phenomena."

It is under this latter aspect that the training of the senses and, through them, the mental activities can be more systematically and logically treated.

"Look how differently," says a writer, "infants are now treated from what they were fifty years ago; how the weakness of their power of attention is taken into account; how their pure sensuousness is constantly appealed to, and how every effort is made to help them to take in knowledge with pleasure, instead of it being crammed into them with a rod."

Kant, in his *Pädagogik* says, "behind education lies the secret of the perfection of human nature."

This is a beautiful thought, and it implies that observation and a study of the laws of mind "furnish us with ample means for determining what should be the right system of education."

How true is it, therefore, that all teachers should be provided with the means of psychological study, and that mental science should be prescribed for a pupil-teacher's course.

II.—ORDER IN WHICH THE FACULTIES OF CHILDREN SHOULD BE DEVELOPED.

1. INTRODUCTORY.

From what we have already discussed it is easy to perceive the truth of the observation that "every child is an organism, furnished by the Creator with inherent capabilities of action, and surrounded by material objects which serve as stimulants to action."

In accordance, therefore, with our lines of treatment, we now know that it is by the sensory organs that man receives impressions or sensations, and likewise that the growth and development of the child's mind begins with the reception of these sensations.

By the law of growth, according to the same general principles, sensations are gradually grouped and thereby form perceptions, "which are registered in the mind as conceptions or ideas."

> It might be as well if we were to explain here what is generally understood by the term *idea*, and also to bring out its philosophical meaning. Dr. Reid has very exhaustively discussed it, and according to him *idea*, in popular language, signifies the same thing as conception, apprehension, notion. "To have an idea of anything is to conceive it," and hence when the word *idea* is "used in this popular sense, no one can possibly doubt he has ideas; for he that doubts must think, and to think is to have ideas." In a philosophical sense the word idea denotes not so much "the act of the mind which we call thought or conception, but some *object* of thought." Locke in his *Essay on the Human Understanding* speaks of ideas as "nothing but the immediate objects of the mind in thinking." Professor Dugald Stewart limits the term idea to *thought, notion.* or *apprehension.*"

When, therefore, processes of development are the result of "the action and reaction" between those influences that affect the senses "and the inherent powers of the mind, growth is of necessity implied, the outcome of which may very properly be termed a system of natural education."

The Special Attributes of the Senses may be described as consisting of—

(*a*) Quickness in receiving impressions.

(*b*) Strength in taking hold of the impressions.

(*c*) Activity and power in grasping the various details which compose any unity presented to the mind.

We must carefully observe here, as it has an important bearing on the education of the senses, that these three qualities are quite different from each other.

An illustration will bring this out more clearly and simply.

> If an object is held up before a number of children, some will be found able to form an impression of it much more quickly than others, while some will be very slow to catch a notion of it. So, again, they will differ in the strength of grasp with which they seize hold of the object. On some it will produce but a feeble impression, and that impression will consequently soon die away; but by others the object will be grasped firmly and, consequently, held firmly. Others again may be able to take strong impressions, but may be far surpassed by some who have the power to grasp details of the object presented to view.

It is quite true that much of these varying powers may be inborn, but, undoubtedly, these qualities are capable of cultivation, "being intensified in proportion to the healthy exercise of the senses."

As a guiding principle it would be well for all teachers to understand that "education as a whole consists of development and training, and may therefore be defined as the cultivation of all the native powers of the child, by exercising them in accordance with the laws of his being, with a view to development and growth."

Professor Sully strongly advocates that the training of the senses should begin very early, even before school life commences, and observes that "if the senses give us the materials of knowledge, the proper use of them constitutes an important element in the economy of mind." Not only so, but if we desire to have a wide and accurate knowledge about the world in which we live, "the senses must be exercised in the best way so as to accumulate the richest store of clear impressions."

2. KINDERGARTEN.

This term—of German origin—means the "children's garden," and is applied to a peculiar system of education, founded by Frederick Froebel of Thuringia—1782–1852—designed to precede all other elementary training, and to prepare the child for regular instruction by exercising all its powers so as to render it self-active. The fundamental idea of Froebel was "to set the child to do whatever he could be induced to do, as a kind of amusement, exercising his observing faculties in connection with his playthings and games, and thus to create in him an interest in learning.

Mr. Sully is not stinted in his approval of the system as a means, and that too an important means, of training the senses and the intellect. "In the regulated play of the Kindergarten," he observes, "the senses are rightly the thing most attended to. Froebel has built on solid psychological ground, in maintaining that knowledge and activity are closely related, that the child's spontaneous activity is the force that sets the mechanism of the senses in movement, that perception includes the employment not only of the eye but of the hand, and that a nice perception of form is only gained in connection with the device of manual production."

The exercises of the Kindergarten system have this threefold object in view:

(*a*) To produce forms of beauty.

(*b*) To produce forms of life such as resemble things which may occur within the child's experience.

(*c*) To lead to the production of forms of knowledge, that is to say, such as may lead to a knowledge of the qualities, quantities, and the actions of objects.

In all Kindergartens it is imperatively desiderated:

(*a*) That the teacher abstain from all learned lore.

(*b*) That no abstract expressions, in particular, be under any circumstances used.

The reasons for this lie in the fact that the Kindergarten is merely concrete facts, which the child can learn through the senses, and can clothe in its own language, and that become familiar to it by the laws of its own mental growth.

This is not the place to discuss the amusing employments with playthings, called gifts, which address at once the intellect, the emotions, and the physical activities of child life. These are treated elaborately in works easily accessible to every teacher.

The **Advantages** claimed for the Kindergarten are—

1. That children taught on the system submit more readily to school discipline.

2. Kindergarten children are more accurate in observation, and seize ideas with more rapidity than other children.

3. They also show special aptitude for arithmetic, drawing, and natural sciences.

4. Children so trained can express what they know with greater correctness and fluency than the average of their age.

3. GENERAL HINTS FOR THE TRAINING OF THE SENSES.

Dr. Combe remarks that the best means of *acquiring* instruction is to bring the reflecting faculties into direct communication with their natural objects, as form with forms, colouring with colours, &c. "If I employ language only, the power is less than by employing more. Therefore call in the aid of form, colour, &c." There are two modes of obtaining knowledge.

1. To present the object directly to the faculties, and then add the name.

2. To give the name and add a description.

In the early stages of education, and when the teacher is directly working on the minds of the children *through the senses*, the true plan is to present the object to the children. Let them examine its form, size, colour, and other particulars, and afterwards tell the name and spell it.

> "All nature is adapted, in the most beautiful manner, to the faculties, and the study of nature imparts great pleasure. Thus the curiosity of children to know things is insatiable. They will break their playthings to see what is in them. When properly taught, the elements of all the sciences are very simple. Talk to a child of geometry, triangles, and hexagons, and you will puzzle it completely.

> But present a figure, let it notice that it has three sides and three corners, then tell it that all such figures are triangles; and it readily understands the matter. So of the other geometrical figures. Children always take pleasure in learning by actual presentation. They can be instructed in almost anything which can be presented to them directly and subjected to their senses."

Object Teaching. — Amid the many suggestions which might be advanced for promoting the training of the senses, we believe object teaching to stand about the most important. By this method of instruction the observing and intellectual faculties are vigorously exercised and developed; and children systematically trained according to its principles "acquire habits of investigation and an independence and energy of intellect," which will be greatly helpful to them to continue through life "the pursuit of knowledge as their most valued recreation."

Points to be specially remembered in relation to the Object Lesson, and the Training of Children:

1. That the child is purely sensuous—his world is the world of the senses.
2. That it is the nature of child-life to be eager to express the results of observation, or the feelings to which these observations give rise.

These two special features give us the law of the teacher's action with respect to the method of intellectual training, and bring out, at the same time, the value and importance of the object lesson.

Hence we have the following points naturally enough *coming out* of the preceding:—

1. That the child's mind can be brought into activity only by some stimulus from without.
2. That this stimulus should be of a kind that will lead the child to accumulate a stock of impressions of the external world upon which "he will, in process of time, be able to reflect and to produce results from them."
3. That whatever is presented to him must be such as can appeal to his senses.

4. That the power of *observing* well, so as to result in strong, vivid, and clear impressions, is of primary importance in this kind of instruction.

> "Every teacher, in drawing out his object lesson, should ask himself the question, Is this which I am going to say such that the child can see it, or feel it, or such that he has seen or felt, or such that he has seen the like of it?"

The object of the above remark is to show that we must not teach by mere words, but endeavour by the cultivation of the observing powers in children to increase the natural impulse of the child to express himself. If children have any thoughts at all they are sure to express them—they think aloud. Everything, therefore, depends on the tact of the teacher.

> "It is to be noticed here that the absolute silence of a class of young children may be a proof of stern discipline, but it is also a positive proof that the teacher has failed in rousing the intellectual life of his pupils. Present an object of sense to a child, and he will at once begin to talk about it, if he is under no restraint. He will express his wonder, he will show signs of interest, he will begin to describe it in his own way, and he will ask questions about it. Now in every object lesson there should be some vent for the expression of opinion," or at least some way, by judicious class-questioning, so as to develop and encourage it.

We now proceed to a further development of the object lesson, viz., that which has relation, not to individual objects, but to the qualities of the objects.

> This is a stage in general culture which is of the highest importance. If we were, for example, "to cultivate a child's perceptions of form to the utmost, and neglect his perceptions of colour, his notions of colour will, to the last, be hazy and indistinct, if not fatally defective in some respects." And so on in the case of size, number, weights, &c. Hence we have the following points to which attention should be paid:—

1. Object lessons should be very varied in character—

they should be taken from stones, plants, animals, from men in every variety of industrial pursuit, besides having relation to those which are moral and religious.

2. Much use should be made of pictures; but the object which the picture represents is of much more value for mental training, as they can thereby look at and touch it, thus aiding them in determining its size—whether it is hard or soft, round, flat, or square, &c.

3. Form and colour should be very early brought under the observation of children, so as to make a sense of the beautiful—so powerful and so pleasurable—develop into clear and distinct impressions.

4. The ear, also, ought to be trained to an accurate perception of all sounds—"to notice where sounds proceed from—their comparative loudness or lowness—and the child will devote some especial attention to musical sounds."

5. The practice given, after the same fashion, to all the senses should, in this higher function of the object lesson, tend to enable the child to determine the qualities of things—not to exercise the senses merely as "instruments of sensation, but as instruments of positive knowledge in every direction."

While we have been considering the application of the object lesson in the training of the younger children, we would just like to say, under the same division of our subject, that the principle is capable of indefinite expansion. A sentence or two from Professor Sully will bring this out:—

"An appeal to children's own observation is now rightly resorted to as much as possible in every branch of instruction. The teaching of natural science sets out with the object lesson, which, in its simplest form, is a mere exercise of the pupil's observing powers in noting the properties of a thing. Hence the desirability of using models and maps in teaching geography, of pictures in teaching history, and of such an apparatus as M. Sonnenschein's in teaching the elements of number."

We might with advantage bring this branch of our subject to a close by giving the titles of several works on the "Education of the Senses," which students might well consult to profit:—Dr. George Wilson's *Five Gateways of Knowledge;* Currie's *Early and Infant School Education*, chap. v.; *Common School Education*, part i. chap. vi.; Taine *On Intelligence* (London: Reeve & Co.); Bernstein's *Five Senses of Man;* Professor Bain's *Senses and Intellect;* Eliza A. Youman on *The Culture of the Observing Powers of Children;* Spencer's *Essay on Education*, and the same author's *Principles of Psychology;* Dr. Andrew Combe's *Management of Infancy;* Dr. Hill *On the Culture of the Senses;* Dr. Youman's *Modern Culture; Exercises for the Improvement of the Senses for Young Children* (London: Bell & Daldy); Payne's *Lectures on Froebel, Pestalozzi*, and *Jactotal;* Wilderspin's *Infant School System;* Schmid's great work, the *Encyclopädie des gesammten Erziehungsund Unterrichtswesens*—a great part of which has been translated in the *American Journal of Education*, afterwards called the *Annals of Education;* and in Henry Barnard's *German Teachers and Educators.*

4. THE TRAINING OF THE MEMORY.

This is a branch of this little treatise which demands our careful consideration, inasmuch as the "training of the memory, though not the whole of intellectual education, is certainly an important portion of it."

Kant somewhere observes that "the understanding has as its chief auxiliary the faculty of reproduction." "Only when the memory is well stored with distinct images," says Professor Sully, "and series of such images, can the higher operations of the understanding be carried out." Dr. Carpenter very simply defines memory to be the "renewal of past sensations and of the ideas they have excited," and is further of opinion that it may be "questioned whether impressions are really left on our minds by anything else than *ideas.*"

The object before us, at this stage, is to ascertain in what manner, as teachers, we can act upon the intellectual nature of a child so as to cultivate the faculty called memory. Hence, we must keep before our minds the following important and universally admitted facts:—

1st. That all "acquirement of knowledge depends on our *recording* power."

And 2d. On "our power of *finding* what has been stored away in our Record-office." Hence the "culture of an *exact* and *ready* memory is one of the most important parts of intellectual education."

Keeping these facts prominently before us, we proceed to note—

1st. That memory is the result of attention.

2d. That attention is, as observed in an earlier part of our remarks, the "concentration of all the powers of the mind on the matter to be learned."

The "art of the memory, then," as Mr. Payne puts it, "is the art of paying attention." Not only so, but the power to secure and fix the attention of the children during instruction is the great art of teaching. The limits of this little work will not admit of anything except a line of *suggestion* being adopted by us in treating of this very important subject. The fuller investigation can be followed up by consulting the writings of Mr. Herbert Spencer, Professor Bain, Professor Dugald Stewart, and Sir William Hamilton.

Hints for the Training of the Memory.—It is a well-recognized fact that there are differences of memory, and that these differences are both numerous and extremely difficult of classification. Professor Sully, quoting from Kant, mentions a threefold division of memory, viz.:—

1. *Mechanical memory, i.e.* that kind of memory which joins words either addressed to the eye or the ear "in a series."

2. The *ingenious memory*, which seeks the help of pictures or other agencies to increase the permanence and

durability of the impression, and to strengthen the power of recollection.

3. The *judicious memory*, by which is understood that particular kind of memory "in which the understanding takes part, and the logical relations of the ideas are made the connecting links."

Mr. Sully explains that these differences are due to a variety of causes:—

1st. To inherited or "native inequalities."

2d. To variations in the "retentive power."

3d. To what Professor Bain calls "the plastic power of the brain," depending on the structure of the brain.

4th. "To differences of circumstances, exercise, and education."

To this might also be added a conclusion which is equally admissible, that "the educated have, as a rule, a better memory than the uneducated."

Concentration of Attention.—This is a subject of the very highest importance in the training of the memory. Impressions are reproducible just in proportion to the "strength and vivacity" with which they are first made. Hence, if we wish to make a child remember an object, "the object must be allowed to lie before the child's mind or eye for some time," in order that the "attention might be concentrated."

The perception of an object, conducing to the power to reproduce the impression, may be considered as the result of the following process, for the matter of which we are indebted to an American psychologist of considerable distinction:—

(*a*) The perception or sensation has first to displace the perception or sensation which preceded it.

(*b*) This fresh sensation or perception then gathers strength, and occupies for a time the whole mind.

(*c*) Soon after another object of perception or of thought presents itself; and the mind will occupy itself with this.

(*d*) This new perception will weaken and finally expel the other.

Hence we can readily apprehend that each perception is connected with two other mental acts, viz.:—

(*e*) With the one which it expels, and the one by which it is expelled.

From which again it is not difficult for us to conclude that the power of reproducing the mental act depends—

(*f*) Firstly, on the strength with which the act is executed at the central moment. Secondly, on the strength of the connections which it may form with the act which preceded it, and the one which immediately followed it.

"The strength of the connection is increased if there be some points of resemblance between them, or some points of contrast."

One important hint, therefore, which the teacher should weigh with much consideration is, to see that "time is given to allow these points of resemblance or contrast to flow over, as it were, from the one to the other."

In order still further to guard the young teacher, especially, against the "danger of attempting to do too much, and therefore doing what he does do too hurriedly, we would offer the following additional hints, drawn from the same able source:—

(*a*) Try to intensify the impression by allowing the various senses to deal with it, thus *concentrating* attention on it longer than he could otherwise do.

(*b*) As far as possible bring only two objects or two ideas before the scholar's mind at one time.

(*c*) As far as possible, also, let them be *naturally* connected, and held together for some time.

(*d*) The teacher must also keep before his mind the fact that there are some things he desires his scholars to forget, as well as those he wishes them to remember.

A hint of this kind is by no means unnecessary, inasmuch as on many occasions "the teacher must pass over a good deal of matter in a comparatively short time, and it is neither possible nor advantageous for the pupils to

> remember the whole, and those parts to be remembered should be those that are strictly necessary to the study." It would not be out of place at this point, though it probably pertains to persons of maturer years than the ordinary school child, to give a word of warning "against the danger of indulging too much in reading books which, awakening the interest strongly, and thus disturbing the nervous system, do not demand of the reader an accurate recollection." No reading has a greater tendency in this direction than that of novels, inasmuch as the frequent and rapid reading of them makes no call upon the mind to "remember the incidents accurately." The habit of "reading without caring to remember," or with a view to its reproduction, "is apt to transfer itself to the books and acts which ought to have the closest attention."

Repetition.—It is hardly necessary to say that "an object or thought is reproducible easily when it has been made to occupy a large space in the mind." The necessity for repetition will be apparent from the following considerations:—

(*a*) "The power of reproduction is limited by time," *i.e.*, as Professor Sully puts it:

(*b*) "Every impression loses its effect after an interval."

(*c*) "Most of the events of life are forgotten just because they never recur in precisely the same form."

(*d*) If, therefore, we desire to reproduce an object "the faded impression must be renewed, and the renewal of the impression strengthens its hold."

Professor Sully makes a statement, with a qualification, which seems to be contradictory, when speaking of repetition. He says, "The more frequently an impression is repeated the more enduring will be the image." He then adds, "It is not the mere number of repetitions which determines the final depth of the impression, but the frequency of the repetition. In order that a second impression A_2 should add something to the first impression A_1, it must occur before the first impression is allowed to lose its effect." This, as the professor says, will lead to a "cumulative effect."

(*e*) Young children require stimulation, if it is the teacher's earnest desire that the impression should be easily reproducible. There should not only be frequent repetition in their case, but wherever it is possible a "real object" should be presented to a child in "preference to a picture of it, and a picture of it in "preference to a mere verbal description." In the same way, it is easy to perceive that young children are more likely to remember or reproduce an impression more easily and readily if more than "one sense has been employed" in producing the impression. "If any object is to be remembered, the child will remember more easily if he can touch, smell, and taste it, as well as see it."

5. HEALTH AND MEMORY.

Dr. Abercrombie, in his work on "The Intellectual Powers," has a very interesting chapter on the *Influence of Disease on Memory*. It is not our intention, however, to enter upon the investigation of a subject of this kind, involving, as it must necessarily do, a considerable inquiry into the physiological aspects of the question. We will give, however, just a few of the more prominent features of the subject which bring up such views as are likely to be of service to teachers in dealing with their scholars, and which point to care and caution being exercised to prevent seriously increasing mischief to the brain of the young people intrusted to their care.

We remark then, in the first place, that the very "earliest mental function which is impaired by bodily disease is attention." In a feverish condition a child is not capable of "following out an argument, or of fixing his mind upon anything which requires much attention." The following peculiarities respecting the influence of disease or debility upon the mind may be given here:—

(*a*) After a severe illness, or if the stomach is seriously disordered, the attention of a scholar "cannot steadily be directed to any sustained or continued effort of mind."

(*b*) Children who have at any time sustained serious injuries of the head, or, it may be, the children of very intemperate parents, not unfrequently exhibit an inability to receive an impression with "sufficient strength to produce remembrance," though, at the time, there may be "a perfect perception."

(*c*) Poorly fed and ill-housed children are often incapable—and it is not surprising it should be so—of much robust mental power; they occasionally exhibit a want of recollection, or weakness in the power of reasoning, and an inability to much excited attention.

This is a subject of very great importance in these days of *Codes* and *Standards*, and points to care and attention on the part of the teacher to prevent over-pressure.

> "When, therefore, a child forgets," says a writer on education, "it must not be always attributed to carelessness. A child learns a word on Monday, and knows it with perfect accuracy; but when he comes on Tuesday morning to repeat it, he finds he cannot. In all probability the impression was too weak to last a whole day, and to resist the many and more interesting ideas which have intervened; but the lesson is not lost. The original impression is there; the teacher pleasantly and patiently renews the impression, and the old blends with the new, and strengthens until repetition fixes it in the mind for ever." Over and above all this, "there is no surer sign of latent disease than when a child, generally ready and quick, stumbles and forgets."

III.—REASONING PROCESSES.

In a manual of this kind it is quite impossible to enter upon anything like an elaborate discussion of the *processes of reasoning.* We cannot, however, entirely overlook the subject, inasmuch as questions bearing upon it occasionally appear in the school management paper set to students of the second year for certificates of merit. These questions, however, seek more for simple definition than anything else. Keeping that in view we intend dealing with one or two points bearing upon the Reasoning Processes in as brief a manner as possible.

Reason.—By the term reason we are to understand "that function of our intelligence having reference to the attainment of a particular class of truths." To reason, therefore, implies to pass from one judgment which has been reached by observation or experience, to another judgment of a newer or mayhap a more advanced kind.

> Mr. Sully gives the following illustration of the nature of reasoning, which is at once simple and most appropriate. "The barometer is falling, therefore it is going to rain." In drawing this conclusion we identify the present state of the barometer with past states which we have observed or heard about. But we do not identify simply this phenomenon as an isolated fact: we identify it in respect of its accompaniments or attendant circumstances (altered state of the atmosphere, and results of this, rain).

Inductive and Deductive Reasoning.—Conclusions or judgments by the processes of reasoning are arrived at by two principal or fundamental methods, to which we apply the logical terms *inductive* and *deductive.*

Induction.—This, as its literal or etymological derivation brings out, is "an upward movement of thought"—by which we proceed from the known to the unknown, or "from particular instances to a general truth or law."

Most of the great laws of material nature, and the principles lying at the root of all our knowledge of natural science, have been obtained by the inductive processes of reason. "By induction we establish the law that heat expands bodies," and that all material bodies, if unsupported, would fall to the ground. Much of our knowledge of physiology and of medicine, &c., has been acquired in the same way.

Deduction.—This may be described as "a downward movement from some general statement to a particular statement," and is very commonly opposed to induction. It may be considered also as an inference, and it is worthy of remark that it is "the tendency of all sciences to become more and more deductive." Mathematics, for example, is almost entirely a deductive science, "and most of the truths of natural philosophy have been gradually put on the same basis." In like manner it applies to "grammar and the science of language."

Syllogism.—The several steps of a train of deductive reasoning "consist of what is termed syllogisms." In other words a syllogism is simply deductive reasoning "fully set forth."

Hypothesis.—In a brief foot-note appended to his *Principles of Psychology*, Mr. Sully says: "When no previously ascertained principle or rule can be found, the mind is capable of supposing a reason. This is called *framing a hypothesis.* In common life and in scientific inquiries we are frequently driven to invent suppositions or hypotheses for the sake of explaining observed facts. This is one of the highest manifestations of the constructive or synthetic activity of the mind.'

Inference.—An inference is a conclusion arrived at from a premise in reasoning. The previous judgment, however, "recurs rather as an afterthought and by the suggestive force of the similarity between the new case and the old."

Proof.—When "a distinct reference is made," in the process of our reasoning, "to some antecedent judgment" on which our inference depends, and "forms a part of our concluding revisional process," then we characterize that as a "process of proof."

Demonstration.—A demonstration is a proof of any proposition which excludes doubt, and follows the same methods in logic as it does in mathematics, by "omitting to state the premises at every turn"

IV.—SCHOOL DISCIPLINE.

WHAT IS MEANT BY SCHOOL DISCIPLINE.

School discipline seeks to attain "good order," "due obedience," "careful attention," "steady work,"and "right conduct." If these be wanting in a school little true progress can be made in the way of study, and no real moral training is secured.

It has been well remarked that "teaching does not exist for the sake of discipline, but discipline for the sake of teaching." The young teacher should try above all things to realize this distinction.

Experience will show that almost everything in the way of good discipline depends on the personal character of the teacher.

WHAT ARE THE BEST METHODS FOR SECURING DISCIPLINE.

1. There should be perfect order.—Above all things order must be obtained, and with this end in view there must be obedience to rule. To obtain this

(*a*) The pupils should be actively employed.

> The true maxim here is that "every child at every moment of the day shall be employed at some one of those duties for which a school is properly intended."

(*b*) The children should be trained to do their work in a quiet and methodic manner, and with as little noise as possible.

(*c*) There should be a proper time and place for every person, and for every thing.

> There is no better test of a teacher's skill and fitness for his work than the ingenuity he can show in adhering to this rule. Young teachers require much guidance, however, in relation to it. For instance, the copy-books ought to be carefully kept in boards with straps, the pens and pencils should be kept in separate boxes, the black-boards should be properly fixed—everything, in fact, requiring to be used either by the teachers or the scholars, should be orderly and properly arranged and prepared BEFORE instruction begins, and no time should be *wasted* afterwards.
>
> These suggestions may appear to many as simply "trifles," but when the business of school-keeping is seriously considered in its bearing upon the formation of *character*, as well as in the training of the young in correct habits, they must conclude that they are very important. One of Her Majesty's Inspectors, of great experience, writes: "It is only an inspector that can accurately understand the inconvenience which results from inattention to apparent trifles. These arrangements are often all the difference between an ill-conducted and a well-conducted school; and I have known a master's labours entirely thrown away, and himself worn out and dispirited, from a mere neglect and indifference to such slight matters."

(*d*) Order should be maintained with persistent regularity and uniformity.

> This is very important, as nothing is so detrimental to the maintenance of healthy discipline as alternations from severity to laxity. The order should be constant and regular in its exercise.

(*e*) "Neatness and cleanliness are closely connected with good order." As these notes are intended especially for pupil-teachers, *neatness* and *cleanliness* in their relation to school discipline may be considered under four heads.

(1) *With reference to the teacher.*

The teacher should be a model and example to the scholars. He should therefore be neat and tidy in personal appearance, as any neglect in this direction must have an injurious effect. Many young female pupil-teachers require to be cautioned against the display of tawdry jewelry and gaudy showy colours, which are highly calculated to create a false taste among the young and to excite vanity

(2) *With reference to the children.*

It has been often remarked that "children will be clean only from habit," and the teacher has every opportunity of fostering and promoting this. Indeed it is no exaggeration to say that if children are not neat and clean in school, the fault lies to a very large extent with the teacher.

When we consider, that under the operation of the compulsory clauses of the late educational legislation in England, our public elementary schools are attended by many children drawn from poor, vicious, neglected, and unhealthy homes, the importance of creating a regard for neatness and cleanliness in the minds of the children, in relation to health and character, must never be lost sight of. Every teacher should insist upon absolute cleanliness, and a teacher who fails to do this ought to be considered as unfitted for his office.

(3) *In relation to the school-room.*

Pupil-teachers require much training and caution in regard to this aspect of the subject. Too many of them are apt to allow the children to litter the floors of their class-rooms with torn and soiled papers, broken pieces of slate, pens and ink-wells scattered and tumbled about, and hats, bags, &c., huddled in every corner. This state of matters ought not for a single moment to be allowed to exist. For their own comfort in after-life, for the sake of the children whom they, oftentimes unconsciously, are training, every effort ought to be put forth to guard against it. Pupil-teachers and assistants can show, even in this, much sympathy and kindness to the principal teachers to whom they stand related.

(4) *With respect to the school premises and offices.*

No excuse need be offered for bringing this point under the notice of teachers. It is in the highest degree identified with the health and comfort of the children. The offices ought regularly to be inspected—a few moments would do it—and kept sweetened, flushed, and disinfected. This ought to be recognized as one of the duties of all "school cleaners" or apparitors, and when the managers are neglectful, their attention ought to be called to the fact. The playgrounds ought to be freed from rubbish of all sorts, and, where practicable, a border of flowering plants should be laid out round them. This would tend to create a healthy taste on the part of the children, and the cost would be but a trifle. The pupil-teachers and the elder scholars might charge themselves with the responsibility of keeping these plots in good order. The windows also should be kept cleaned and freed from dust, and it would certainly add immensely to the pleasure of the children if flower-pots could be arranged round the window sills. For the attainment of all these ends the hearty co-operation of the pupil-teachers would be invaluable.

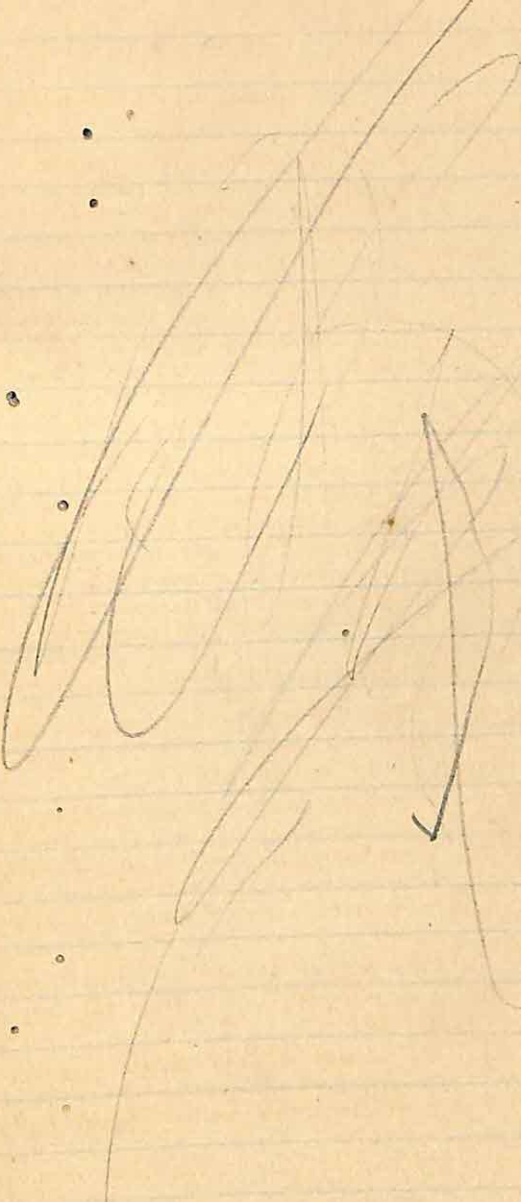
2. There should be good government.

(*a*) The rules laid down by the teacher for the conducting of the school and the management of a class, ought to be few, brief, and simple.

The object of school rules should be to secure obedience and steady application on the part of the scholars, and with this end in view the young teacher must be careful not to make a rule which would be *inoperative* because *impracticable.* To do so would simply defeat the object the teacher had in view and lead to the reconsideration of a new rule.

(*b*) The teacher must be careful to be strictly impartial in his government, and to avoid the very appearance of favouritism.

Monitors and pupil-teachers in the earlier years of their apprenticeship require this caution to be pressed upon them with considerable emphasis, because if they yield to what



is occasionally a very natural temptation, the moral tone and vigour of the class are certain to be weakened. "Treat all alike" should be the maxim.

(*c*) Do not indulge in threats or in the use of "*names*" to the children.

A teacher who employs threats and is *abusive* in his language towards his pupils is setting them a very bad example which they are only too apt to copy. Besides, it has been truly said, "it is cowardly, because the pupils cannot retaliate." Authority can best be maintained by "kindness, patience, undeviating firmness of purpose, and a strict regard to principle in all our dealings with our scholars."

(*d*) Avoid a spirit of too frequent fault-finding.

This hint is of far more importance than most assistants are apt to imagine.

Many assistant teachers, in the government of their class, are only too apt to be absurdly and ridiculously particular. While aiming at the most complete order and quiet which are desirable, some allowance must necessarily be made for that restlessness which is peculiar to children, and the *impossible* must not be expected. To be constantly warning, rebuking, and fault-finding, would be to conduce to a serious loss of moral power. Dr. Calderwood remarks that "Nothing so impairs authority as a too frequent or indiscreet use of it. If thunder itself were to be continual it would excite no more terror than the noise of a mill." The teacher's eye can do much to check the very beginnings of wrong-doing, and if the teacher were only to use the eye in the government of the class, there would be much less necessity for the use of the voice, and the interruption to the general work. The eye "is the most quick and most silent of messengers, and the scholars can understand it more quickly than they can understand words." Besides, "it is the primary source of the teacher's influence."

(*e*) Anger and passion should be avoided.

This is also an advice of very great moment to junior assistants, as, unfortunately, in our public schools they are too prone, if anger and passion are fostered, to treat the scholars with harshness, and roughness, and even with blows. No head-teacher worthy of the name will allow his junior teachers to strike the children, and if corporal punishment be resorted to by them, it should always be considered a serious breach of school discipline on the part of the teaching staff, and demoralizing in its influence.

The duty of the assistant is to represent the misconduct of the pupil to the principal teacher, and leave to him, if need be, the duty of punishing in proportion to the nature of the offence. Let the young teacher, however, above all things, remember, that "if the government of the class be unvarying and correct, severity will very seldom be required."

SUPPLEMENTARY HINTS ON SCHOOL DISCIPLINE.

In addition to the foregoing suggestions, one or two other hints might be given, which, if wisely acted upon, would largely contribute to the teacher's power in the discipline and training of the young committed to his care.

1. Endeavour to instil into the minds of the children a love of truth, good-will, persevering industry, and proper conduct.

In these, as in every kind of moral training, example is better than precept. It is of the very highest moment for the teacher to create in his pupils "purity of motive." Mr. Robinson of the Irish inspectoral staff observes that "The children should be accustomed to do a thing simply because it is *right* to do it, and not because it is pleasant or novel; and the teacher ought not to be too ready to render them assistance in overcoming whatever little difficulties present themselves." Goethe, the great German thinker, remarks that "with children the faulty is not to be removed by violent measures, but to be substituted by the good. Fear is the worst means of education."

2. As far as is consistent with the proper discharge of school duty, every assistant should endeavour to interest himself in the games and amusements of the children in the playground.

> Many pupil-teachers have a most absurd notion of their dignity, and are afraid of *unbending* lest it might lead to a loss of this dignity. In many cases this dignity is another name for *consequence* and *self-importance*. Instead of losing their influence over the children by a kindly interest in their pupils' amusement they are certain to secure their loving regard and affection. It is the true way to win and hold the youthful heart

3. Try to secure the hearty co-operation and influence of the parents in the training and education of their children.

> This is in many cases unfortunately never attempted at all. It is too much the custom simply to insert the names of the "*irregulars*" in the "absentee sheets" of "School Boards" and "School Attendance Committees," and leave all inquiries to be made by their officers. With some parents who are wholly unreasonable and defiant this may be necessary, and indeed imperative. Every teacher, however, ought to consider that there are "three parties concerned in the success of every school—*the teachers, the parents, and the children*"—and a teacher acts very wrongly and injudiciously indeed if he neglects to secure the parents' co-operation.
>
> "There can be no agency so potent as the natural influence of the father and mother, and no teacher ought to neglect to cultivate it. Even for his own sake he ought not to do so," for the better he is liked the greater his influence for good will be. "The confidence of the people, which can never be thoroughly secured except by personal intercourse, invariably increases the attendance," and does much to induce them to take a practical and careful interest in the education of their children.

4. Try to secure, as far as possible, "simultaneous

movements" in class changing, in rising, marching, and taking seats.

> These movements could all be very effectively carried out "and signalled" by the figures 1, 2, 3, &c.
>
> "Any such form of drill is an aid to discipline, training the scholars to instantaneous obedience." There can be no manner of doubt that "when changing classes—gathering or dismissing the pupils—time is not misspent which is given up to secure a steady march in and out."
>
> The signalled figures may be made to denote any movement required, and their use prevents unnecessary speaking, which must assuredly be the result if each command had to be given in words.

V.—READING.

In the reports submitted year after year by Her Majesty's Inspectors of Schools to the Education Department, the conclusion drawn is a most unfavourable one in regard to the "Reading" in the elementary schools of the country.

Though the percentage of "passes" is the largest in reading, yet, comparatively, it is the subject worst done.

It is, therefore, in the highest degree important to inquire into the reasons they assign for this.

Whatever objections teachers might be disposed to urge against the competency of these gentlemen to give good advice on "method" in connection with elementary education, there can be no manner of doubt that as educated and cultured men they are highly qualified to form a correct judgment as to what constitutes "Good Reading."

I. REASONS ASSIGNED BY HER MAJESTY'S INSPECTORS FOR DEFECTS IN READING.

The reasons assigned for defects in reading are somewhat after the following nature:—

(*a*) Too much noise in school during a reading lesson.

(*b*) Reading is not taught frequently enough as a distinct lesson.

(*c*) Imperfect enunciation and articulation.

(*d*) Slurring over of final letters and syllables, with little or no attention to stops.

(*e*) Unheeded emphasis, mumbling, inaudibility.

One inspector says, "During the past year I have frequently had to complain of the inaudible mumbling, particularly among the lower classes of my schools, which frequently passes current for reading." Another boldly says, "I am not aware that in any school is attention given to just expression or correct emphasis." While yet another inspector of the most varied and lengthened experience observes, "By great courtesy only, and forbearing allowance, can that inaudible sound, which, because a pupil is standing with a book in his hands, and his lips are doubtfully moving, you hope to hear, but might as easily hope to see, be called reading."

Many of these gentlemen complain also of affectation and hesitation in reading, of the unnatural pitch of the voice, and of mal-pronunciation. Not a few also take exception to the small amount read by the pupils, owing to the size of the class, and the time spent in questioning, spelling, meanings, taking places, &c. A far more common complaint made by inspectors, and probably the most serious of all, is, not that the children do not know what the words are, especially the younger children, who probably read from a book they have read through many times before, but there is the consciousness that all the time the child does not understand the meaning of what he is reading. "The maxim with many teachers," observes an intelligent inspector, "is to hurry on the child as soon as he can sound the words, and disregard their meaning altogether."

2. TO WHOM ARE THESE FAULTS MAINLY DUE?

There is no doubt that for many of the defects in reading the teacher is mainly responsible. Unfortunately, in the majority of our inspected schools, the head-teachers are unable to give much of their time to the reading lessons of the younger children, and, consequently, this part of instruction falls largely into the hands of the pupil-teachers and monitors. Commenting upon this, Mr. Vertue observes, "It is most important, therefore, that those to whom this duty is intrusted should be taught both to read properly themselves, and how a reading lesson should be given. Where this has been done I have found the reading of the children distinguished, not merely by fluency and accuracy, but by the gradual acquisition of all the higher qualities of intelligent reading in the different classes. Where this trouble has not been taken, monotonous sing-song drawling, . . . and ignorance of the meaning of the simplest words are all more or less to be found in the reading of the lower Standards, while much of the time that should have been devoted to the improvement of the reading of the upper Standards in respect of intelligence and expression, has to be spent in correcting faults the children should never have acquired."

3. IN WHAT GOOD READING CONSISTS.

(*a*) In clear, plain, and distinct articulation.

> That is, each word should be sounded clearly by itself—the final syllables should not be slurred over—and every scholar in the class should hear with perfect ease and comfort.

(*b*) In trying to give utterance to the spirit of the

sentence as well as to the words of which it is composed.

This is generally described as "intelligent" reading, and it supposes of course that the scholar knows not only how to *pronounce* the words, but also their exact *meaning* in the sentence.

Teachers, especially in the elementary schools of the country, "should always remember that the poor know little of written language, and that, as a consequence, many words familiar to them are to such children as unintelligible as Greek or Latin." The pupil, therefore, by careful attention should be made to perceive that the "more nearly reading approaches in style to speaking, the more correct and pleasing" will it be considered. The question, therefore, for the children to have constantly before their minds in a reading lesson is, "How should I *speak* this sentence?" and in this way secure a natural style of reading.

(*c*) The pupil-teacher should as much as possible, in conducting a reading lesson, make use of the "*rule of imitation.*"

With respect to this suggestion, Mr. Fussel, one of H.M. Inspectors of Schools, in his report in the Blue Book of 1857-8 observes, "Few things are more painful to me than to see the energies of a young teacher frittered away after this fashion. A child reads a sentence—he commits gross faults. 'Read it again,' says the teacher. He reads it again, and, as might be expected, he reads it very much as at first. 'Read it again,' repeats the teacher; and so on. It does not seem to enter into the teacher's conception that his own labours and the child's too would be immensely lightened if he would but tell the child what his faults are and *why* he was to read it again."

The true remedy is to read the sentence as it ought to be read so that the child may have a clear notion of his shortcomings, and that he may find out what his defects are, and *how* he may correct them. This is usually termed "*pattern-reading,*" and it of course assumes that the young teacher has acquired the art of "good reading" by diligent application. "It is not surprising that the style of reading adopted by the children is vicious when the example set them by their teachers is not good."

Good reading on the part of the pupil-teachers "will bear abundant fruit in the improved reading of the children."

(*d*) Endeavour at all times not only to cultivate purity of pronunciation, but, also, to eradicate the common provincialisms and vulgar blunders that are to be found in every district in the country.

For example, the aspirate (the letter *h* sounded) is often omitted, and it is as frequently inserted in pronunciation when it is altogether improper to do so; *e.g. hair* is often pronounced *air* and *vice-versa.* Again, if "children are allowed to say *savidge* for *savage, noine* for *nine, vice* for *voice, idear* for *idea, winder* for *window, singin* or *sing-ging* for *singing,* and *pint* for *point,* &c.," it is not surprising that they mis-spell these words when they come to write them.

Mistakes in pronunciation of a similar character are common everywhere; and it should be the teacher's special care to train the scholars to avoid them.

(*e*) The children should uniformly be interrogated on what they have read, and every difficult word and phrase should be carefully explained; a liberal use of the blackboard being made for this purpose.

This, more than anything else, perhaps, tests the pupil-teacher's powers of teaching. Not only does the practice raise a reading lesson from the region of mere mechanism to intelligence, but it is of infinite value to the teacher himself, as it enriches his vocabulary, gives him a readiness and facility in the use of simple and appropriate expressions, and adds to his power and usefulness. It is of the utmost moment that the scholars should be keenly alive to the sense of what they read. It is idle to expect the grown-up labourer or artisan to take any pleasure in his book or his newspaper, if reading in the days of his schooling has been associated with a mere successive series of meaningless syllables.

SUPPLEMENTARY HINTS ON THE TEACHING OF READING.

1. See that the scholars stand with their bodies erect and firm, the head well up, and the book held so as not to interfere with the sound of the voice.

2. Insist upon the pupils pitching their voices in order to be heard by every child in the class as well as by the teacher, so that all may be benefited by the teacher's corrections.

3. Secure distinctness, body of voice, and confidence, and train the voices of the children into harmony, especially in the lower standards, by simultaneous reading, for which purpose, however, class-rooms are almost indispensable.

4. See that all errors are detected, dwelt upon, and pointed out with care.

5. Take the utmost care with the reading lessons of the Primer and First Standard classes, and prevent the tendency young children have to accent all the words in a sentence equally, and to pause and nod after each word. "The habits the pupils acquire while learning the First Book accompany them into the higher classes, and once contracted are never thoroughly cured."

6. Make the children acquainted not only with the meanings of the words printed usually at the top of the reading lessons, but read the passage over to them first, carefully explaining the meaning of every apparently difficult word *in connection with the text*, and not merely from a dictionary.

VI.—WRITING.

The general opinion of most of Her Majesty's Inspectors of schools seems to be that the penmanship of the scholars attending the elementary schools of the country is far from satisfactory. And yet there is no more important subject to the teacher, as, especially among illiterate parents, "writing forms the popular test by which the value of a school is tried." To a large extent, also, this is due to the teaching. Very often "teachers *hear* the reading, and tell the boys to *go on* writing without paying that decided attention to points of detail on which all successful teaching depends."

Dr. Morell in his report to the Committee of Council on Education in 1873, observes: "Writing is of course an almost purely mechanical faculty, but not *wholly* so. Good writing shows incidentally that there must have been carefulness, attention, perseverance, and practical skill on the part of the teacher, and the power of infusing these qualities into the minds of his scholars. Good writing is therefore an indication of some of the qualities of a good school." Another inspector remarks: "It is common unfortunately in small schools where there are many classes and few teachers, to set some divisions to write alone from a copy by way of occupying them. Mistakes in consequence are copied and re-copied; corrections perhaps are never made, and the absence of any guiding help perpetuates irregularities. Letters are rude and awkward, and the writing becomes a scrawl."

This "absence of any guiding help" is, without doubt, the most fruitful cause of the bad writing that is found in our schools.

Too often teachers treat *writing* in school as a means of "killing time," or of keeping the children quiet, and preventing absolute idleness, rather than sincerely desiring to improve their scholars' penmanship.

Though we would not have the more intellectual part

of subjects taught in school to suffer, yet the neglect of adopting proper systems in this branch of instruction, so that the scholars may be able to write with freedom, rapidity, legibility, and, if possible, even with beauty, is totally unjustifiable.

Perhaps the use of engraved headlines is a strong temptation to the teacher to extend to this exercise only some slight supervision, instead of giving it careful, systematic, and intelligent teaching.

METHOD RECOMMENDED.

Train the children to hold the pen properly, and attend with care to the position *of their bodies.*

No faults are more common among children than those of holding the pen improperly, and sitting in a constrained position when writing. It is no doubt exceedingly difficult to get the children to hold the pen properly, and perhaps this very fact often causes the young teacher to become careless and indifferent about it. Everything, however, depends upon first-beginnings here. Habits are formed when children are first set to use pen and ink, and unless the teacher shows them what they are to do, and by judicious and constant correction assists them in the process, the habit they acquire is almost certain to be a bad one. Considering the design of this little manual, directions are not given for the correct method of holding the pen. No doubt the principal teacher will lay down special instructions on this point. With respect to the posture of the child the following hints are perhaps the best that could be given.

I. POSITION OF THE CHILD.

(*a*) "He must sit firmly but easily, with his feet resting steadily."

(*b*) "The body, with exception of a gentle inclination of the shoulders forward, must be upright."

(*c*) "The left hand should rest on the nearest corner of the paper, while the left elbow is kept off the desk and brought closely to the side."

(*d*) "The weight of the body should be thrown slightly on the left arm so as to leave to the other greater freedom of motion."

(*e*) "The elbow of the right arm should approach the side, and the hand with the pen properly held in it should move easily over the paper, the pressure of the fingers being just sufficient to give the pen steadiness."

All these suggestions are of great value, inasmuch as a constrained attitude is not only calculated to interfere with the correct forms of the letters, but is likely to lead to injury to the health.

2. EARLY STAGES OF WRITING.

(*a*) *Let the children begin to write early*—because "the faculty of imitation is strong in young children, and in this way it may be turned to good account."

(*b*) *Have a fixed and definite standard of proficiency for each class.* This is of very great importance, and necessitates some care and discretion on the part of the teacher in the selection and graduation of the headlines. In this matter, therefore, the assistants are certain to have the advice and judgment of the principal teacher. It should be, however, the duty of the pupil-teacher to exercise every diligence to keep his class *well together*, and, as far as possible, up to the standard set.

(*c*) *Take the greatest possible care with the writing of the Junior Classes.* It is here where the pupil-teacher is apt to fail. He ought to go round from scholar to scholar and not only *tell* them what to do, but show them *how* to do it, and even help them. The hands of the younger children also require *guiding*, and the pupil-teacher should on no account neglect this. He should also pencil the copy-books for those who seem most backward. This is even better than having the books printed with traced lines, as the pupil *sees* how the characters are formed by the teacher's pencil. Where time is a consideration, and

the teaching power limited in a school, the traced copy-books of Mr. Vere Foster[1] might be used, and the correct forms illustrated on the black-board.

(*d*) *In the upper sections the great object should be to secure a bold, free, round hand.* Here, therefore, a liberal use should be made of the black-board, pointing carefully out the relative heights of the letters, their slope and distance, and the proportions they bear to each other. The badly-formed letters, &c., should be placed side by side with the properly shaped ones on the black-board, and the faults, in imitation, judiciously criticised. Rapidity of penmanship, so essential in business, can only be acquired by practice.

SUPPLEMENTARY HINTS ON THE TEACHING OF WRITING.

1. Insist upon the copy-books being kept scrupulously clean, neat, and free from scribbling. This can only be done by their being carefully examined after or during every lesson. Tidy, neat, and careful habits, of the utmost importance in the formation of character, are greatly aided in this way.

2. A good supply of pens and ink should be provided, and the teacher should see that these are renewed from time to time.

3. Let the copy-books be carefully collected, those belonging to each class being strapped between boards.

4. Let your own writing, whether on the black-board or in the copy-book, be as neat and correct as possible.

5. Let every fault, no matter of what kind, be pointed out to the scholar.

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[1] These can be had from the publishers of this *Manual* through the ordinary channels of trade.

VII.—SPELLING.

It has been well observed that "Spelling is one of our great English bugbears," yet when the great difficulties connected with this branch of instruction are considered, most of Her Majesty's Inspectors, in their Reports for the last few years, assert, that, on the whole, it is taught in a fairly satisfactory manner.

"Its difficulties are undoubtedly great, and *perfect accuracy* is a stage very seldom arrived at." Where bad spelling does exist the unvarying testimony of Her Majesty's Inspectors is that it is due to imperfect or unsuitable methods of teaching.

It may be set down as a truism that the child who can read well will also be able to spell well.

It used to be supposed that spelling could be learned by *rules*, but as our language is so *irregular* very few are now found who advocate this system.

Again, many maintained that the ear was the best medium for the teaching of this subject, and that the sound of the word, or its pronunciation, was the best means of being able to spell well. Hence *spelling-books* were compiled, consisting of uninteresting and disconnected columns of words, which were to be committed to memory with the utmost care and diligence. Experience has now demonstrated, however, that good spelling depends to a very large extent upon the eye. An American writer has said that to be able to spell well is due in most cases to *a memory of the eye.*

The London *Times* a few years ago said that "Spelling is learnt by *reading*," and that "nothing but *reading* will teach spelling."

This truth suggests to us the best means of teaching it in our schools.

1. *The children, in the early stages of their school course,*

should be set to transcribe, or make out a written copy of some part of a printed book.

This exercise should be prescribed for home tasks every evening, and should form a considerable share of the work of the younger children during the school hours. For improvement in spelling its utility is evident. The eye of the child is obliged to look carefully at the printed words, and to remember the combination of the letters in each, and their true position.

2. *In copying passages from their reading books the young teacher should insist upon the children not simply glancing at the printed words, but carefully observing the true position of each letter, and comparing what has been written letter by letter with the printed form of the word.*

The whole value of the exercise depends upon this, and the utmost diligence should be shown by the teacher in insisting upon it.

3. *Train the eye also by writing out the more difficult words in each sentence on the black-board, and make the class spell these simultaneously, the teacher meanwhile pointing to each letter as the children proceed.*

This is a valuable exercise in classes even beyond the very junior, and, in combination with transcription, is certain to result in improvement in spelling.

4. *Let the transcription of the children be examined by the teacher with the* utmost care, *the mistakes pointed out to them and corrected.*

This hint might be considered unnecessary, but unfortunately the value of the exercise is very frequently entirely lost through the carelessness of the junior teacher, who may perform this part of his duty in a slovenly and hurried manner.

5. *Insist upon the children inserting the "pauses as they occur in the passage before them."*

This is very often entirely neglected, though the practice of it necessarily induces care and attention on the part of the children, and is of great value in teaching punctuation when they come to compose.

6. *See that the children use Capital Letters when they occur in the printed book, and that the reason for their use is explained to them.*

This is also often neglected by the young teacher, who therefore needs a word of warning in this respect.

7. *Insist invariably upon a proper division of the word when part of it is carried over to the next line.*

This is of very frequent occurrence, and it is the custom too frequently to treat it with indifference. Even words of *one* syllable are frequently divided into two parts when a child, in writing, finds he has not space at the end of the line to write the word in full.

Children should therefore be early exercised in the correct method of writing words according to their syllables.

VIII.

WRITING FROM DICTATION.

Dictation is less a method of *teaching* spelling than it is a *test* of the manner in which it has been taught.

THERE ARE THREE WAYS IN WHICH WRITTEN EXERCISES MAY BE A TEST OF SPELLING.

1. *Writing from dictation*, i.e. *reading a portion of a book slowly over by a few words at a time, and making the children write them.*

2. *Writing from memory*, i.e. *reading a passage slowly and deliberately over once or twice, and then getting the scholars to reproduce it as closely as possible on paper.*

3. *Writing an essay, or an original composition, on any given subject.*

THE DICTATION EXERCISE PROPERLY DIVIDES ITSELF INTO FOUR HEADS.

(*a*) Reading the passage clearly and distinctly.

(*b*) Writing it down on slates or on paper.

(*c*) The correction of the errors in spelling or punctuation.

(*d*) Employing the black-board in pointing out the mistakes that the children have made, so as to prevent their repetition.

> With reference to these four divisions pupil-teachers ought never to forget that the whole value of a dictation exercise, if it is to be employed as a means of *teaching* spelling, consists in the care with which the work is examined, the errors pointed out, and their repetition prevented.

SUGGESTIONS FOR GIVING A DICTATION EXERCISE.

1. The piece to be dictated should be selected from a lesson which the children have previously read, and with which they are tolerably familiar.

2. It should be read over with great distinctness to the class, and every difficult word explained before the children are requested to write it.

3. The passage should be read out in a clear firm tone by two or three words at a time, and the children should on no account be allowed to ask any questions, but, if unable at any point to hear the words that are dictated, they should be instructed to hold up their hands so as to obtain a repetition of them.

> *N.B.*—The teacher ought not to read the passage too hurriedly for the scholars to follow. If it be read too quickly they are apt to write badly, and this ought by all means to be prevented. This exercise ought to be characterized by neatness in penmanship.

CORRECTION OF DICTATION EXERCISE.

The following are a few of the methods that have been suggested for correcting the exercises of the class after the dictation has been finished.

1. The children are made to change slates and to correct each other's exercise.

> The objection to this is that it is apt to lead to deception, which must have an injurious effect upon the moral nature of the child. This might be counteracted, however, if the teacher were to select a number of slates at random and test the accuracy of the corrections.

2. The teacher spells over each word letter by letter, and instructs each scholar to mark every error that occurs.

> It has been objected to this plan, that in practice it is found very ineffectual. Many errors are wilfully passed over by the children, and many more are omitted from thoughtlessness and inattention.

3. Each scholar in the class is made to spell one word alternately, and the errors noted by the teacher.

> The objections to this plan are similar to those of the preceding methods.

4. The children (when slates are used) are told to change slates, and correct each other's exercise, while the teacher, with much care and deliberation, spells over each word.

> This is the method in most general use, and the children are told to write out the corrected form of each mistake several times; the teacher meanwhile using the black-board to aid in the process.
>
> All these methods are recommended on the plea of economy of time in a large school, and with large classes.

5. The best method of correction, however, is to read over every exercise and to mark every error that has occurred, whether it be in spelling, in omissions, or in

the use of capital letters. The true spelling also ought to be written *above* the word that is wrong.

> This should be done by the master or his assistants. Sometimes a monitor who is distinguished for his care and good spelling might be selected for this duty.

6. The errors of more frequent occurrence also should be carefully written down in the teacher's note-book, pointed out on the black-board, and used as tests in future dictation exercises.

DICTATION EXERCISES FOR THE HIGHER CLASSES.

These exercises ought to present many difficult forms of spelling to the pupils, as, for instance, a few of the following:

1. Extracts from good poetry.

2. Sentences containing words that are pronounced alike but have a different spelling, as *The heir of the estate removed his chair to the open air long ere sunset.*

3. Words that are both spelt and pronounced alike but differ in the meaning, as *He made light of the light he saw in the distance.*

4. Passages containing illustrations of words with silent letters and other peculiarities, as *He said the knot was not useful to the dumb boy in climbing the stairs for the lambs.*

Mr. Robinson, in his deservedly popular *Manual of Method and Organization*, suggests that the scholars in the upper or advanced classes in schools "ought to be called upon to write down lists of all the commodities generally sold in different kinds of shops. They will frequently find this of advantage to them, as they are very likely to be called upon to use these words in after-life."

Auction bills also, and other extracts from our daily papers "will be found a trying exercise for the best spellers in the senior division of the school."

IX.—ARITHMETIC.

This subject is, without doubt, the least satisfactory, in the results attained, of any of the branches of instruction carried on in our elementary schools.

One of the most intelligent and thoughtful of Her Majesty's Inspectors remarks that "Arithmetic remains as great a stumbling-block as ever; it is taught mechanically and by rule, without intelligence, without anything but a parrot-like repetition of formula." Another inspector of great experience also observes, "In regard to arithmetic, the most mechanical and unintelligent methods are often followed even in schools where accurate results are obtained." The same gentleman asserts that this is owing to the teaching being left too much in the hands of the pupil-teachers, many of whom are too young to be teachers at all. Perhaps this is only too true, but, in any case, there is no subject of more practical utility than that of arithmetic, and hence every means should be adopted in the teaching of it to explain not merely the *terms* employed, but the *processes*, *principles*, and *uses* of the rules.

IMPORTANCE OF THE SUBJECT.

Mr. Currie, in his *Common School Education*, with great wisdom, observes, that "The teaching of arithmetic ought to be carried on with two ends in view, a special and a general; the one to give the pupil skill in computation, the other to strengthen the powers of the mind."

John Locke, in his *Thoughts on Education*, published so far back as 1693, says, "Arithmetic is of so

general use in all parts of life and business, that scarce anything is to be done without it. This is certain, a man cannot have too much of it, nor too perfectly." Considering to how large an extent arithmetic enters into the business of daily life, it is of the utmost importance that our young people when at school should be trained to *calculate* with rapidity, accuracy, and ease.

To secure these there should be careful *instruction*, and abundant *practice*, in the rules.

SUGGESTIONS FOR INSTRUCTION IN ARITHMETIC.

In a small treatise like this it is impossible to attempt almost anything in the way of *explaining* the rules of arithmetic, this duty pertaining more to a treatise upon the principles of arithmetic. Still, a few guiding principles may be suggested as helpful to the pupil-teacher *in class-teaching*.

I. ARITHMETIC IN THE INFANT SCHOOL.

(*a*) Children should, as early as possible, be trained to form some conception of number.

(*b*) This can be done very simply, even with very young children, somewhat in the following manner.

(*c*) The child is familiar with the number of his hands and fingers, but the number of the forms and pupils, of the doors, windows, and other things around him, should all be used as a basis to found simple arithmetical operations upon. To these the processes of addition and subtraction can be very easily applied. The reason for this advice is very simple—all a child's notions are of concrete numbers. To a child, three books, four boys, five pictures, &c., are intelligible enough, but not three, four, five, &c., in the abstract. Hence, objects which a child can see and handle should as much as possible be used in teaching him.

(*d*) The next step should be to make the children acquainted with the names of the figures, and also with the order in which they should be repeated. The ball-frame ought to be used freely in this stage. For example, the pupil ought to be shown that eight is one *less* than nine, and one *more* than seven. The free and intelligent use of the ball-frame supersedes, to a large extent, the *counting* by the children on their fingers at this stage.

(*e*) The teacher ought then to test the children's proficiency in counting by framing such questions as—

"If I have 7 pens and *get* 1, how many shall I have?"

"If I have 9 marbles and *lose* 1, how many shall I have?" &c. &c.

The children should be exercised in this manner for some time until they are able to add and subtract figures up to 10.

2. ARITHMETIC IN THE STANDARDS.

NOTATION AND NUMERATION.

Notation and numeration are two of the most important rules in arithmetic, and the utmost diligence and care should be taken in explaining them.

Notation is the name usually given to the expressing of numbers by means of *characters* or *figures*. *Numeration*, again, signifies the act of expressing *numbers in words*.

The best authorities on the "Science of Education" recommend that these two rules should be taught together, "for they require the same explanations, and they are founded on the same principles, and they mutually assist each other." In addition to the *mechanical* method of teaching notation, such as using dividing compartments by lines drawn on the slate or black-board to denote the order for *units*, *thousands*, *millions*, &c., with which every pupil-teacher is more or less familiar, the following hints abbreviated from Mr. Robinson's work, previously mentioned, may be found very useful.

(*a*) The scholar should be made to understand thoroughly what is meant by a *place* and a *period* in nota-

tion, and to be able to change the value of any number by using either ciphers or figures.

First Illustration.—If the figure 4 be given to the scholars they should make out of it the complete period (004), or out of 61, the period (061).

Second Illustration.—If a figure, as 3, be given to them, they may be called upon to state how they would make it stand for *thirty* or *three hundred;* or if 400 be put down, how they would make it stand for *forty* or for *four*.

Third Illustration.—The scholars may also be asked to affix ciphers to any figure without altering its value, or to remove any figure from the first to the second or third place, and in each case to state what the total result is.

(*b*) They should also be able to state *orally* what figures are used to represent any number.

First Illustration.—The number *three hundred and twenty-one* may be selected, and they should be required to say at once 3, 2, 1; if *four hundred and five*, they should be able to say 4, 0, 5, &c.

Second Illustration.—They should be able also to reduce numbers to their *component parts*, and to give the proof of the result by addition.

Example.—526 is equal to 500, 20, and 6. Thus—

$$\begin{array}{r} 500 \\ 20 \\ 6 \\ \hline 526 \end{array}$$

In this way the children will be gradually brought to understand the value of what is called a *place* in arithmetic, and to know also the use of the *cipher*, and the difficulties of expressing numbers of three places will be mastered.

SIMPLE RULES.

ADDITION.

Addition is the method of finding the *sum* of two or more given numbers, that is, the number to which they amount when taken together. In this rule the real difficulty requiring explanation is the process of what is called *carrying*, and this should be made as plain and simple as possible to the children.

METHOD SUGGESTED.—1. Show that carrying is simply breaking up a number into its "elementary parts," and placing each part into its proper group, as was illustrated in the remarks on *notation* and *numeration*.

Example.—Add— 44
29
6

In this example we say 6 and 9 are 15 and 4 are 19, which consists of 9 units and 1 ten. Therefore we put the units under the line of units, and the ten is carried to the tens, making with 2 tens and 4 tens a total of 7 tens.

Of course the value of the figures might be indefinitely increased to hundreds, thousands, &c., and the same principles would still apply.

2. Constant practice, and equally constant explanation on the black-board are imperatively necessary to secure accuracy and rapidity on the part of the children.

SUBTRACTION.

Subtraction is the method of finding the *difference* between two given numbers, that is, the number by which the greater number exceeds the less, or the remainder after the less is taken from the greater.

In this rule the principal difficulty which the children will experience is with respect to *borrowing*, as by this time they ought to be able to arrange the numbers properly.

Method Suggested.—"In subtracting, say 38 from 92; since 8 cannot be taken from 2, we '*borrow*' from the place of tens, *i.e.* the 2 is increased by 10, and 8 taken from 12 leaves 4. The 10 added (or '*borrowed*') has to be taken away again, and this is done by taking 1 from 9 in the place of tens. But 3 has also to be taken from this 9, so, first of all, the 1 and 3 are added together, *i.e.* 1 is 'carried' to the 3, and 4 taken from 9 leaves 5, giving 54 as the complete remainder." An explanation of this kind is as much as the children can understand, though, it is true, other methods might be suggested.

It would be well, however, to dictate the sums to the children occasionally somewhat in the following manner:—

How much does fifty thousand and thirty exceed nineteen thousand and twenty-six? The object being to secure their thoroughly understanding the fundamental principle of subtraction, viz., placing invariably the *small* number under the *other*.

Other tests might also be applied, such as the following:—

(*a*) How to deal with ciphers in the *small* and in the *large* number; for example—

From 52010
Take 24062

(*b*) How to manage in the case of those figures to the left of the small number that have no corresponding figures in the large one; for example—

From 7214162
Take 38765

MULTIPLICATION.

Multiplication is simply the method of finding *how much* a given number taken a given number of times will amount to, and this is nothing more than a process of addition.

Illustration: Multiply 7 *by* 9.—This could be found by writing down 7 nine times, and adding them together—$7+7+7+7+7+7+7+7+7=63$. The teacher should show, however, that this is unnecessary, as we can find the result—63—at once from a table of products, called the "*Multiplication Table,*" which is committed to memory. Multiplication by one figure should present no difficulty to a class, seeing that any child who knows the tables well, and thoroughly understands the principle of "carrying," should be able to work such sums almost at once.

SUGGESTIONS FOR CLASS INSTRUCTION WHEN THE MULTIPLIER CONSISTS OF SEVERAL FIGURES.

(*a*) Be careful that the children clearly understand the value of the figures by which they multiply.

> ILLUSTRATION.—In multiplying 52736 by 527 the 2 of the *multiplicand* is really 2000, and the 2 of the *multiplier* is 20, and the *product* of these, 4, *i.e.* 40,000, will fall into its proper place.
>
> *N.B.*—The terms *multiplier*, *multiplicand*, and *product* should be carefully explained.

(*b*) Explain the reason of "skipping" with equal care; and a method has been suggested by Mr. Robinson somewhat as follows:

ILLUSTRATION.—Multiply 5268 by 342.

$$\begin{array}{rl} 5268 & \\ 342 & \\ \hline 10536 & (1) \\ 210720 & (2) \\ 1580400 & (3) \\ \hline 1801656 & \end{array}$$

Here we multiply by 2, 40, and 300. By this process they will soon see that if the figures were put in their proper places there would be no need of cyphers. Thus—

$$\begin{array}{r}
5268 \\
342 \\
\hline
10536 \\
21072 \\
15804 \\
\hline
1801656
\end{array}$$

(*c*) When the pupils are well exercised in the rule by practice, show them how the process of multiplying may be shortened.

Illustration.—Multiply 6734 by 728.

Here multiply first by 8, and then take 9 times the result, obtaining the product of 72 at once, taking care, however, to arrange the figures correctly. Thus—

$$\begin{array}{rl}
6734 & \times 728 \\
8 & \\
\hline
53872 & \times 9 \\
484848 & \\
\hline
4902352 &
\end{array}$$

DIVISION.

Division is the method of finding how often one given number contains another. The following points might be brought before the pupils.

(*a*) Show that division is the converse of multiplication.

Illustration.—How often is 8 contained in 59? Here by remembering that 8 × 7 is 56, we have at once the number required—7, with 3 as a remainder; so that the process is shortened by multiplication.

(*b*) Show that division is an abridged form of subtraction.

Illustration.—Divide 94 by 7.

Here by subtracting the divisor from the dividend, and subtracting it again from the remainder, and continuing the process till a remainder *less* than the divisor is obtained, and then by reckoning up the *number* of times the subtractions have been made we have the answer required. Thus—

$$\begin{array}{rl} 94 & \\ 7 & (1) \\ \hline 87 & \\ 7 & (2) \\ \hline 80 & \\ 7 & (3) \\ \hline 73 & \\ 7 & (4) \\ \hline 66 & \\ 7 & (5) \\ \hline 59 & \\ 7 & (6) \\ \hline 52 & \\ 7 & (7) \\ \hline 45 & \end{array}$$

$$\begin{array}{rl} 45 & \\ 7 & (8) \\ \hline 38 & \\ 7 & (9) \\ \hline 31 & \\ 7 & (10) \\ \hline 24 & \\ 7 & (11) \\ \hline 17 & \\ 7 & (12) \\ \hline 10 & \\ 7 & (13) \\ \hline 3 & \end{array}$$

Suggestions for a Black-board Lesson on Division.

1. Show *when* the process can be carried on mentally.

Illustration.—When the divisor does not exceed 12 we proceed thus—

$$\begin{array}{r|l} 9 & \underline{7864 \div 9} \\ & 873 + 7 \end{array}$$

This process is called *short division.*

2. Show also that *short division* may be employed when the divisor is made up of factors, each factor being less than 12.

Illustration.—$8923 \div 54$.

Here the *factors* of 54 are 6 and 9. Then we proceed thus—

$$\begin{array}{r|l} 6 & \underline{8923} \\ 9 & \underline{1487}—1 \\ & 165—2 \end{array}$$

Here, however, the *method* of obtaining the *true* remainder must be carefully explained to the scholars. In the above example the true remainder is 13, obtained as follows:—1487 is 2 more than 9 times 165, and 8923 is 1 more than 6 times 1487. Therefore 8923 is one more than the sum of 54 times 165 and 6 times 2, *i.e.* it exceeds 54 times 165 by $6 \times 2 + 1 = 13$; or it contains 54, 165 times and 13 over.

3. Train the scholars to use *factors* in division only when they are not *numerous*, and when they can be found out easily.

This advice is given simply because too much time would be taken up in *discovering* the factors, and the result could be attained more easily and more rapidly by long division.

4. Show that the differences between *short* division and *long* division consist in the following:—

(*a*) Short division is employed when the *carrying* and *subtracting* can be done mentally.

(*b*) Long division is employed when the processes cannot easily be carried on mentally, but require to be recorded on slate or paper.

This might be illustrated by commencing long division with a small number as divisor, and showing the working in both cases. Thus—

Divide seventy-four thousand five hundred and thirty-eight by seven.

Long Division—

$$\begin{array}{l}
7\,)74538(10648.\\
7\\
\overline{45}\\
42\\
\overline{33}\\
28\\
\overline{58}\\
56\\
\overline{\tfrac{2}{7}}
\end{array}$$

Short Division—

$$7\ \underline{|\ 74538}$$
$$10648\tfrac{2}{7}$$

COMPOUND RULES.

In this treatise it is not intended to attempt to discuss the methods that might be recommended for the class teaching of each of the compound and higher rules of arithmetic.

Such a treatise as that of De Morgan's *Principles of Arithmetic* can be confidently recommended for giving a clear and exhaustive explanation of the "reasons and processes" of each rule, and this work ought to be diligently studied by every pupil-teacher.

The hints and suggestions given in the preceding pages will, it is hoped, unfold such simple methods of instruction in arithmetic as the writer believes would be serviceable in class teaching. The following supplementary suggestions are, however, here added in order to give a fuller exposition of his views on this branch of instruction.

SUGGESTIONS FOR CLASS INSTRUCTION IN ARITHMETIC.

1. Notation should *always* be used; *i.e.* instead of reading out the *figures* to the class, the *number* should be given. Thus, the teacher should say, *Three thousand and forty-eight*, and not 3,0,4,8.

The reason of this suggestion must be apparent when the time already spent in learning notation is considered.

2. Insist, uniformly, upon the scholars' putting down the figures, whether on slate or paper, both neatly and correctly.

Though this may take more time at first, yet the habit

of neatness and carefulness will prove of great value afterwards. Besides, rapidity will follow, in time, as a matter of course, though expertness and promptness ought by all means likewise to be insisted upon.

3. Exercise every diligence to prevent copying, as nothing does more to retard progress than the practice of this vicious habit.

Mechanical Means to Prevent Copying.

(*a*) Make the children stand back to back in pairs.

(*b*) Dictate different sums to the class, as A, B, C, &c., sums, taking care that those of the same letter are kept apart.

(*c*) Use sets of cards with different sums.

Suggestions (*b*) and (*c*) cannot be carried out, however, until each pupil has acquired some proficiency in the rules. Besides, children never copy when they can, without much difficulty, work the question for themselves.

True Means for Preventing Copying.

Constant vigilance, watchfulness, and care on the part of the teacher are the best means to prevent the children copying their neighbours' answers. Young teachers should be ever on the alert during the arithmetic lesson, and should, with much firmness, repress the habit of copying.

Moral Means to Prevent Copying.

(*a*) Train the children to look upon copying as dishonest and deceitful.

(*b*) Show them that truthfulness extends not merely to words but to acts as well, and that copying is a habit which no right-minded boy should indulge in.

4. Take the greatest pains with the junior classes in the class teaching of arithmetic.

Mr. Sheridan observes very justly "That the seeds of expertness in calculation must be sown in the junior classes, and if neglected there the crop will be poor ever afterwards."

5. Let the scholars use paper instead of slates occasionally in the working of their sums.

This may be done somewhat after the following method:—

(*a*) In early stages let the sums be transcribed from the slates to the paper ruled for the purpose.

This practice secures neatness and accuracy.

(*b*) Let paper be used alone in the working of the sums.

This will create a habit of greater care on the part of the pupils, and lead also to greater thoughtfulness.

(*c*) Insist upon the home work being invariably done on paper.

X.

MENTAL ARITHMETIC.

This is a subject of great practical importance, and considering how useful and even essential it is in many departments of every-day life, and how easily and even wonderfully the power of *ready calculation* can be acquired by most young people, the teacher ought, by all means, to give the scholars some training and practice in it from time to time.

Not only should short methods for arriving at correct answers in different rules be taught, but the *reasons* of the processes carefully explained.

The following *hints*—for the writer does not attempt to give *rules*, which can be found in text-books on the subject—are given for the young teacher's guidance:—

(*a*) Begin early with its instruction, and in the "Standard course," when a class has a fairly intelligent grasp of a rule, always frame a few questions to be worked out mentally by the scholars.

It has been observed that the chief value of this consists in the mental concentration which it necessitates. It is an *educational* effort, and gives strength and activity to the mind.

(*b*) Avoid rules got by *rote*, or what may be called "tricks" got up for show.

The object of this hint is simply to secure that instruction in "mental arithmetic" should be imparted in such a way that it might be helpful to the practical business of life, and to prevent the possibility of the subject being taught in that worthless manner of which *exhibitions* are often given in public examinations. Every true teacher who knows "these tricks of trade" gives the practice his unhesitating condemnation.

(*c*) In the early stages part of this exercise might be set down on slates, and the general results worked out mentally.

This often has the effect of creating a greater interest in the lesson, and tends to produce more lasting results.

(*d*) Let the sums to be worked mentally consist as much as possible of those processes which involve the addition, subtraction, multiplication, and division of money, or of such items as are connected with the business and duties of every-day life.

XI.—GRAMMAR.

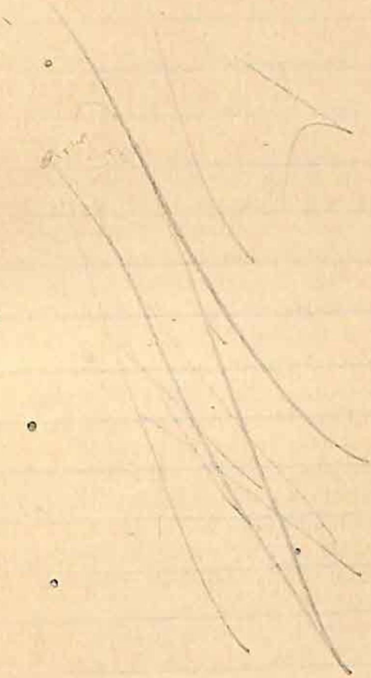
The reports of Her Majesty's Inspectors of Schools for 1877–8 speak in very favourable terms of the progress made by the children in what are termed the "class subjects," and of grammar in particular.

Without exception these gentlemen warmly recommend the selection of grammar from the list of the "class subjects" in the "Code" as of the very highest value in improving the intelligence and quickening the general mental activity of the scholars.

Mr. Kennedy observes that grammar "Is the only subject in our elementary schools in which the scholar is carried into the region of perfectly pure thought." And he is also decidedly of opinion "That those public elementary schools, which shall succeed best in giving the scholars sound grammatical training, will, as a rule, turn out scholars having more intellectual power than the public elementary schools where grammar is not so acquired by the children."

There seems, however, to be a complaint, very general on the part of the inspectors of schools, that the teaching of grammar is too "booky and technical." It is also urged that lists of words and definitions are learnt by heart and said by rote, that these are too often got up from cheap little pamphlets, and that the children are not capable of applying the simplest rules of grammar.

The *Saturday Review* of the 8th September, 1877, describes these pamphlets in the following terms:—"They may be had on every theme, from the principles of cooking to those of physical geography. The knowledge packed in primers is the tinned meat of the intellectual life, and has almost taken the place of the fresh preparations which can only be obtained by the aid of grammar and dictionary."



SUGGESTIONS FOR TEACHING GRAMMAR.

1. Grammar is best taught by oral lessons, especially to the junior classes, and the use of technical terms should be as far as possible avoided.

> The grammar of any language presents difficulties of various kinds at every stage, and only careful, simple, and intelligent teaching, with familiar illustrations judiciously selected, can enable the pupils to overcome them.

2. Let the children carefully understand that the principal use of grammar is to teach how a language should be spoken and written correctly, and therefore they should try, as much as they possibly can, both in and out of school, to speak as they read, and to avoid incorrect forms of expression.

> This cannot be impressed too strongly or too frequently upon the scholars. We speak very much by ear, and unfortunately the large majority of the children in our elementary schools rarely hear. language spoken in its grammatical form at home or in the street.
>
> Hence, the teacher should secure, as far as lies in his power, that the rules of grammar taught in schools should have a practical bearing upon the *speaking*, as well as the *written compositions*, of the pupils.

3. Let the earliest instruction be restricted to etymology, as orthography has very little to do with securing the great object which the teacher should have in view in giving instruction in grammar.

> The object of this hint is to prevent young and inexperienced teachers compelling the children to commit to memory many rules about *vowels, consonants, diphthongs, triphthongs, liquids, labials, gutturals, nasals, palatals*, &c. "How can these possibly help a child 'to speak or write his language with propriety,' which, in common school education, is all that grammatical instruction should aim at?"

4. The teacher should uniformly correct every ungrammatical form he observes in the language of his scholars.

> It is here that much good can be done. It is quite common for the children to say, "We have said *us* lessons." "There's the pens." "William and me was there." "They done it," &c., and though such expressions may be used in the hearing of the teacher, for no attention to be paid to them. They ought to be told of them at once, and instructed to avoid such errors in future.

5. Endeavour to cultivate a taste for reading, as it is a valuable agent in making the scholars to speak and write grammatically.

> Mr. John Bright, M.P., remarks that "It is very difficult for any person who reads well-written books and tries to understand them not to acquire a competent knowledge of grammar."
>
> Mr. Brookfield, an inspector of schools, has remarked, "The better instructed children acquire the principles of grammar *unconsciously* by reading and writing under the correction of their teachers."

6. Separate lessons, with a very large measure of practice, should be given on each of the parts of speech, or classes of words.

> The black-board should be freely used in this, as well as in every branch of the subject, and frequent exercises prescribed to the children

HINTS FOR LESSONS ON THE PARTS OF SPEECH.

1. Begin with the noun, and explain clearly the distinction between a proper and a common noun, leaving out altogether, in the first stage, the discussion of the abstract and verbal noun.

> The primary duty of the teacher is to secure that his scholars can detect at once in their reading books the

"naming words" or nouns, and to distinguish clearly between the names of persons, places, and things. Their further subdivision into abstract, verbal, collective, &c., being wholly unnecessary in a first course on grammar.

2. The adjective should of course be taught after the noun is clearly understood, but its definition should, as indeed in the case of all the parts of speech, be as simple and as little technical as possible.

The definition "*Adjectives qualify nouns*" is neither clear nor accurate, and is manifestly beyond the capacity of young children to appreciate. Perhaps it would be better to say that "It is a word used to describe an object."

3. The verb, adverb, pronoun, preposition, conjunction, and interjection should next follow in regular order, each with its clear and simple definition, with abundant and appropriate illustrations on the black-board.

With a clear and simple definition forcibly illustrated to the children, they will soon acquire correct ideas of each of the parts of speech, and be able to distinguish them readily enough in a sentence.

4. Try to secure from the children themselves "a sufficient number of examples" under each definition, "their attention being kept up, and their thought and observation exercised by being required to supply the examples from objects and actions familiar to them."

No better test could be suggested for ascertaining the extent of the pupil's knowledge of the parts of speech. It does not go beyond the range of his vocabulary, and is an appeal to his every-day life.

5. Not only should the teacher be careful that the definitions are correct, but he should be equally careful that they should not be changed, but "committed to memory exactly as they stand, and be repeated afterwards always in the same form of words."

The necessity for this suggestion is thus explained:—

> "Changes in the form of definitions produce looseness and general inaccuracy not only in expression, but in the ideas themselves."

INFLECTIONS.

The changes which certain of the parts of speech undergo should by no means be hurried over. The utmost care should be taken not only in explaining, but in illustrating by simple and familiar examples, such terms as *number*, *gender*, *case*, *mood*, *tense*, *person*, *comparison*, &c.

The rule which should guide the teacher should be to leave inflection alone until the children can clearly distinguish and point out the parts of speech in a simple sentence.

HINTS FOR LESSONS ON INFLECTION.

(1) NUMBER.—Having explained the terms *singular* and *plural*, the teacher should endeavour, by interrogation, to get the children to name nouns that will vary in the manner of forming the plural: thus, *book*, *dress*, *box*, *potato*, *leaf*, *day*, *wolf*, *body*, &c. The children may now be asked to give the correct spelling of each of these words when it stands for *more than one thing* of the same kind.

> The object of this hint is to show how easily the grammatical rules for the formation of the plural of nouns can be evolved from simple and familiar examples.

2. GENDER.—The children ought to understand the distinction between *gender* and *sex* very clearly—"that *things* may be of the male or female *sex*, but only *words* can be of the masculine, feminine, or neuter *gender*."

3. CASE.—Perhaps it would be as well to leave the discussion of *case* until the children have some knowledge of the preposition and verb, and of the earlier rules of syntax.

This hint is given because the nominative and objective cases of nouns in English end alike, and the children ought by all means to know something about the rules of *government* before they can fully appreciate a lesson upon *case* as a simple inflection.

4. The *comparison* of the adjective, the *moods* and *tenses* of the verb, should all have careful explanation, and this explanation should be frequently dwelt upon by class instruction, and examples and illustrations on the blackboard, until it is apparent that the children clearly understand them.

It is important that the scholars should be well drilled on the inflection of the verb—perhaps the most difficult part of etymology—seeing that they are expected, in the Fourth Standard in our inspected schools, to be able to give full parsing in the grammar of the "class subjects."

PARSING.

A writer on school management has observed that "Parsing is the A B C of grammar;" but this is only true in part. The children must know etymology well, and must also have acquired some little acquaintance with several rules of syntax, before they will be able to parse with ease and correctness.

Instead of laying down methods for a parsing exercise such as those understood by the terms "simple," "etymological," and "syntactical," all of which are fully discussed in any of our good text-books on grammar, perhaps it would be better to submit a few suggestions that may be helpful to the young teacher in conducting the studies of his class on this branch of the subject.

HINTS ON PARSING.

1. Be careful that the children clearly understand the *meaning* of the passage, as much of the failure on the part

of the children in the parsing of a sentence lies in their inability to grasp its true sense.

> This is a difficulty common to most children in the early stages of parsing, and the teacher ought to take considerable pains in helping them over it.

2. In parsing, insist upon the scholars not only naming the several grammatical parts of the words in the passage, but also upon their showing the connection each word has with any other word in the sentence.

> This is of importance, as it secures that the children are taught to answer such simple questions on syntax as the following—
>
> 1. Why is the verb *first*, *second*, or *third* person singular or plural? &c. &c.
>
> 2. Why is such and such a word in the *nominative*, *possessive*, or *objective* case?
>
> The application of the rules of syntax bearing on these and other forms of government and concord is of great value when the children pass on to the study of composition.

3. Insist upon the children arranging the words of the passage in the direct or logical order before they begin to parse them.

> Thus, in the passage—
>
> "Then rose from sea to sky the wild farewell"
>
> the words should be parsed in the following order—
>
> "The wild farewell rose then from sea to sky."

4. The derivations of the technical terms used in English grammar should be explained, and the children should be frequently exercised on the simple definitions, and on the more common rules of syntax.

> It would be well for the young teacher to cultivate some acquaintance with Latin—a knowledge of which is of great value in the study of English grammar. The frequent interrogation of the children in regard to the *reasons* of their

detailed parsing would also prevent them falling into mere mechanical forms.

ANALYSIS.

The true object of analysis is to give "definiteness, precision, and accuracy in the use of language."

Unfortunately this object is but too seldom realized by some teachers, and the pupils are treated to a long array of "very learned and cumbrous terms" at once unnecessary and dangerous.

The use of such expressions as "adjuncts," "accessory sentences," "subordinate accessory sentences," "abridged subordinate adverbial sentences," &c., cannot but be very bewildering and confusing to most school children.

Mr. Robinson observes that "Pupils who are taught these terms very often know nothing clearly of what they really mean."

If well and simply taught, analysis is of very great service in unfolding the true meaning of an author's thoughts as these are expressed in language, and of enabling the children to have a clear and accurate acquaintance with grammatical forms in their application to parsing.

The method of teaching this subject recommended by the author, will be found in his *Elementary English Grammar and Analysis*, where it is treated at some length.

SIMPLE HINTS ON THE TEACHING OF ANALYSIS.

(1) Use the black-board very freely.

(2) Restrict the attention of the children, for some time at least, to the following points:—

(*a*) That in every sentence we have *first* "the thing spoken of," and *secondly*, "what is said about it."

(3) Give numerous examples to be similarly divided

until the children thoroughly understand what is termed a simple sentence.

(4) Explain at this point the meaning of the terms *subject* and *predicate*.

(5) Deal then with the word or words sometimes joined to the *subject* and so on with those attached to the *predicate*, at the same time giving the children sufficient examples to analyse as home work.

(6) Gradually train the children in this way to a knowledge of the different parts of a complex and a compound sentence, deferring the technical terms by which they are distinguished until they are thoroughly able to pick out the different clauses.

(7) Passages involving some little difficulty in the exact apprehension of their meaning, occurring in the selections of prose and poetry in the class reading books, should be daily analysed, thereby gradually enabling the children to "acquire the power of dealing with the logical construction of propositions," and to exercise the critical faculty in regard to what they read.

XII.—COMPOSITION.

This subject could not be better introduced here than by the following quotation from a report of one of the most intelligent and observant of Her Majesty's Inspectors, who, in giving the results of his examination of upwards of 300 schools, says—"Composition is, I am sorry to say, extremely poor. The exercise given is generally a letter or a theme upon some common object, with which the children ought to be acquainted, a description of the last school treat or holiday excursion, or the school-room and a day at school. The short, ill-expressed, and for the most part idealess pro-

ductions, which I have to revise, are proofs that our education has as yet failed to affect the intelligence to any extent. There should be no difficulty in setting down in simple grammatical sentences, with some regard to sequence, the recollections of observations of a natural object frequently seen, or of an event in which a part has been taken, if the mind has received any training worthy of the name. But I fear that the habit of observation is not quickened and directed, nor is much attention paid to the cultivation of the faculty of expressing in words the thoughts that float in the mind."

This extract, it is to be feared, only too faithfully represents the state of the case in regard to "composition" in the great majority of our elementary schools.

Perhaps the too mechanical nature of the instruction which the "Revised Code" fosters and necessitates lies at the root of the evil.

Considering how important it is that young people, when they pass from the upper classes of our inspected schools, should be able to express their thoughts in writing with readiness and clearness, as well as with grammatical accuracy, some little pains should be taken to encourage them to acquire this art.

A few brief hints are here given to guide the teacher in this direction.

HINTS ON COMPOSITION.

1. Let the earliest attempts be of the very simplest possible character.

(*a*) Use the black-board in view of the class in a first stage, getting the children to "build" a description of a common object, such as a hat, bell, pair of boots, &c., the teacher *drawing* from the scholars, by interrogation, such replies as would be necessary to give unity and completeness to the description.

This might be repeated from time to time until the teacher considers that the scholars have a fairly intelligent appreciation of the method, and then one or two *subjects* might be prescribed as an occasional exercise for home-work.

(*b*). The form and arrangement of a letter might also be worked out on the black-board in a similar manner, and home work prescribed for the children at the same time, the subjects suggested being, however, very simple and easy.

These exercises should be corrected with great care, and the various faults in composition, &c., pointed out to the children.

2. Writing from memory should be the next step, the narratives at first being of the simplest possible character, and selected from the short stories found in the reading books of Standards I. and II.

3. Equivalent phrases from good authors, or what is termed *paraphrasing*, should next follow.

These equivalents are very numerous in the English language.

Phrases or sentences from books might be selected, and the scholars might be expected to set opposite to them equivalent forms of expression. Passages might thus be very profitably translated from one set of expressions to another.

4. Simple original composition should next follow, the teacher by the exercise endeavouring to secure the following objects:—

(*a*) CLEARNESS, *i.e.* presenting what is intended without the smallest obscurity, so that the meaning cannot be misapprehended even by the most careless reader.

(*b*) CONCISENESS, *i.e.* avoiding the repetition of the same sentiments and arguments, and endeavouring to be direct and plain.

"Clearness and simplicity in composition are the most seemly medium for the manifestation of truth."

To avoid—

(*c*) All incorrect forms of expressions, and the use of barbarisms and provincialisms.

(*d*) All pompous diction and high-sounding expressions—"a conceit which shows a wish to display learning, and partakes of affectation."

In some such way as this, and by encouraging a taste for reading among the children, there is little doubt that considerable improvement would be made in the subject of "composition" in our elementary schools.

XIII.—GEOGRAPHY.

Most of Her Majesty's Inspectors, in their recent reports, complain of the manner in which geography seems to be taught in school.

The following are some of the remarks made by these gentlemen:—

"The cases are still too numerous in which mere cram of a little text-book is the sole preparation for the examination in geography." Another gentleman says—"There are many teachers who make the weary scholars learn by heart tedious strings of mere names and numbers, who are content with mechanical instruction and stereotyped sets of words, who work as if they and their scholars were machines and not reasonable beings."

Observations also to the following effect are only too common in the reports of these gentlemen. Of the geography of the II. Standard the results are most unfavourable. As far as the chief part of it is concerned—the motions of the earth, cause of day and night, &c.—it is a complete failure. The children in the III. Standard are able to repeat strings of names, but their replies seem to indicate that they have only the words of the book before their eyes, and not the aspect of the places on the map. The same style of criticism applies to Standards IV. V. and VI. as well.

Perhaps the true explanation of all these shortcomings is to be found in the remarks of the Rev. W. J. Kennedy, M.A., one of Her Majesty's senior inspectors, when he says—"As a rule, I find that the teaching staff is insufficient for all the work of the school, and that in geography, time cannot be found to give all the oral explanations and instruction which the teacher would desire to do if practicable." No doubt the intelligent and successful teaching of geography is difficult, at any rate with the present teaching staff. Still let us, as far as we possibly can, endeavour to ascertain on what intelligent principles it may be improved.

SUGGESTIONS FOR A COURSE OF INSTRUCTION IN GEOGRAPHY—PRELIMINARY HINTS.

(*a*) The maps ought not to be rolled up, but exposed, like the wall pictures, before the view of the children.

> By this means, and without a monitor, and even before receiving any regular instruction on the subject at all, the children, *through the eye*, are able to collect a good deal of information; such as the relative sizes of the oceans, continents, &c., the distribution of land and water, &c., all of which are of great value to the teacher when the children are advanced to class instruction.

(*b*) Let the children begin the study at a very early age (a monitor assisting them), during the brief intervals from other lessons (such as reading and spelling), to "distinguish the coloured from the uncoloured or white parts of the map."

> The object in view here is to enable the young people to understand what is really meant by a *map*.

(*c*) It should be now clearly explained to the children that the words "top," "bottom," "right-hand," and "left-hand," used with reference to a map, are simple substitutes for the more technical ones of "north," "south," "east," and "west;" and these points should be illus-

trated on the map by showing that Africa is *below, i.e.* to the *south* of Europe, &c. &c.; and by working in this simple way even very young children may be gradually prepared for the geography of the first stage, or that prescribed for the Second Standard.

Diagrams such as those published by the Messrs. Cameron of Edinburgh, and Jarrold, Murby, of London, are of great use in this stage.

GEOGRAPHY IN THE STANDARDS.—
STANDARDS I. AND II.

Under the "Mundella Code" the geography for these Standards, as set out on Schedule II. has undergone very considerable modification; but still it is very difficult to teach, and especially so when this duty is assigned, as it often is, to the younger pupil-teachers. Dealing as it does with an explanation of a plan of the school and playground, the size and shape of the world, the cardinal points, &c., it requires a facility of illustration and a keen appreciation of the mental grasp of young children, which most young teachers fail to apprehend.

HINTS FOR ITS INSTRUCTION.

1. Bring out clearly the distinction between a picture and a plan. A large globe, with a candle or lamp, will illustrate its shape, motions, and the causes of the seasons.
2. Avoid asking the same questions day after day in identically the same words, as this is certain to lead to little interest on the part of the children, and to answers being given "without an intelligent understanding of the reply."

One inspector remarks as the result of a wide experience on this point—"One favourite form of question is that in which only one word has to be supplied by the children, the teacher giving the rest, as 'The earth rotates about an imaginary line passing through its centre *called the*—"Axis,"' shout the children in a body, led by one or two of the sharp ones in the class who are in the habit of answering."

Instead of asking what an island is, the question might be varied thus—"Tell me the name of a piece of land round the edge of which a traveller has walked, close to the edge of the water, until he returned to the place he started from."

Variations such as this in dealing with the definitions of a cape, bay, river, &c., might be freely practised, and no doubt with much profit to the young people's understanding.

GEOGRAPHY IN STANDARDS III. IV. V. VI. VII.

In these standards the geography is now partly *physical* and partly *descriptive*, and should be taught more from the map and fuller works on political and descriptive geography.

Not only is this the case, but as Mr. Morris observes, "There is much reason to fear that the black-board does not occupy the position which it merits in the lessons on this subject."

If well taught the geography of these standards ought to be "full of interest and even of fascination" for the scholars. The following brief suggestions, it is hoped, may be found useful to secure this:—

1. Prescribe a certain amount of work to be learned at home from a text-book, and insist upon its being well prepared, and let it be repeated as a class lesson by the children in school with the map before them.

2. Do not consider the lesson as complete when the mere matter of the text-book is repeated, but add to this what has been carefully collated by the teacher in his own preparation.

> Mr. Robinson observes in connection with this that geography "Ought not to be taught as a system of names, but as an interpretation of nature and art." It might well be said also "that there is scarcely any subject which requires from the teacher a greater amount of general knowledge, or a greater tact in bringing his information to bear on each day's lessons."

3. Make the subject interesting and instructive by combining with each day's lessons something of history, as connected with the races and habits of the people, and with the productions of each country.

> Mr. Collins, H. M. Inspector, recommends that the *political* side of geography should be more dwelt upon. He also adds, as appropriate to the above hint, that "Of all countries, England is emphatically one of which it may be said that 'wherever we walk a history is beneath our feet;' and every county has its own historical associations, its own local traditions, its own famous men of past times; and some acquaintance with the history of their county would be more interesting, and not less valuable information, both to the children and their teacher, than the names of its manufactures and market towns."

4. Let the teacher study books of travel, and lively narratives of tourists, with which the literature of our times abounds, and use this information in giving freshness and life to the teaching of the subject.

> In the Minutes of Council 1848–9, vol. ii., page 469, there is the following observation:—
>
> "The description of a country like Switzerland for instance, its mountains, lakes, plains, glaciers, waterfalls, avalanches, smiling valleys, and eternal snows, all accompanied by a proper map and a description of the habits, history, and government of the people, would certainly do far more to instruct the mind than a catalogue of boundaries and divisions, involving a number of names, to which no mental imagery whatever is attached."

5. The teacher should not only make an intelligent use of the map, and exercise lively oral instruction, but he ought also to seek his illustrations, first of all from the local objects of interest, physical or historical, which are familiar to the children.

> Mr. Steele says, "I have seen Preston boys receive quite a new sensation on being told that when they walked up the river and saw the Darwen run into the Ribble, they

had before them what the geography books describe in mystic terms as a 'tributary' and a 'confluence.'"

In the same way, too, familiar and homely illustrations might do much to make intelligible several of the subjects prescribed for the geography of the Second Standard.

6. Use skeleton maps when the scholars are familiar with the physical and political facts of any country, and get them to fill in the towns, rivers, mountains, &c.

The use of a skeleton map might be made extremely interesting if the situations of the different mountain-chains and ranges were first filled in, because the slope of the land, and the courses of the various rivers might then be *deduced*, and through them, also, the situation of the principal cities and towns.

7. Accustom the children, likewise, to give a rough outline of any country, with whose conformation or coast-line they are tolerably familiar, on the black-board with a piece of chalk. Each child might be asked in turn to fill in a small portion of this outline.

These hints on the teaching of geography could not be better brought to a close than by quoting a few observations made by Mr. Moseley in his report printed in the Minutes of Council of 1845–6.

"Speak to the scholar of the living men who inhabit any of these places pointed out by the teacher on the map, tell him of their stature and aspect, and dress and ways of life, and of their forms of worship. Speak of the climate of that country, of the forms of vegetable and animal life with which his life would be conversant if he dwelt there, of the trees and flowers that grow there, and of the birds and beasts—and you will carry his interest with you."

XIV.—HISTORY.

Of all studies pursued by the young people attending our elementary schools, that of history, perhaps, admits most of being treated in a picturesque and pleasant fashion. Besides, as it has been well observed, "In a free country a knowledge of history must be regarded as a *necessary* and not a *luxury* of the people's intellectual life." And the reason for this is not far to seek, and indeed must be apparent to the least inquiring of minds. "Every man is a citizen, and one part of his work in life is to discharge well and truly the duties of a citizen. He cannot do this if he is altogether ignorant of history." A man who knows little or nothing of the struggles which have been made to form the constitutional life of his country, and to secure to him his political privileges, must be sadly wanting in the dignity and intelligence of citizenship. Unfortunately, however, as a "class" subject for examination by Her Majesty's Inspectors, it appears to be sadly neglected.

In the Blue-book on Education for 1877–8, remarks like the following in the different reports of these gentlemen are not infrequent.

"Of history as a class subject I have not had much experience, and what I have examined is to a large extent worthless." "The results of the teaching of history in the upper standards are the same as pupil-teachers and teachers—date knowledge, exemplifying memory or *cram* is plentiful, but intelligent knowledge is wanting." "History is certainly meagre, very rarely undertaken, and often confused to a distressing degree."

Observations of this kind manifestly suggest the best means of teaching the subject so as to make it, not only interesting and instructive, but also to render the scenes and events with which history deals a good field for mental discipline and elevated thought.

"How can young Englishmen be better taught to love their country than by learning what their country has done in the past, how she has established her institutions, and achieved her fame?"

HINTS FOR THE TEACHING OF HISTORY.

1. In the first place the teacher ought to know the subject *well* himself; he ought to qualify himself to teach it properly, so that the "history lesson may not be a gaunt skeleton, but a warm and goodly living body."

Unless the teacher's mind is *full* of the subject, the teaching of history simply means the pupils reading aloud in succession a certain number of pages from some text-book or manual, and a few uninteresting, spiritless questions framed upon what they have read.

2. "Casual" or "informal" lessons on history might be given in connection with instruction in geography—a tale of war, ambition, industry, lofty genius, or of great suffering, might naturally be suggested by the sight of a place on the map, and interestingly narrated to the scholars.

Battle-fields and birth-places might very well afford opportunities for this. For example, a great war like that of the "Roses," or the signing of "Magna Charta" might be, very pleasantly, and with little expenditure of labour, used to enlist the "attention and sympathies of a very youthful class."

3. The exhibition of a Roman coin, or the derivation of a local name from the Norman, Danish, or Saxon languages, could also be used as "pegs" on which to speak of the Roman occupation of Britain, and the changes produced in our islands by the Norman, Danish, and Saxon invasions.

Subjects of this kind might be now and then brought before children of comparatively tender age, just as many facts in astronomy are done.

4. "Epoch men" should also be referred to in the earlier stages of a historical course, for to relate the life of one of these men is to relate the history of the times in which he lived.

Not only would a biographical sketch of such men as King Alfred, Thomas à Beckett, The Black Prince, Sir Walter Raleigh, &c., embody to a large extent the political, religious, and social circumstances of the times in which they lived, but "an inspiration is caught by the most artless learner from the words and deeds of our great historic men."

5. When text-books are introduced be careful, while insisting upon the scholars committing to memory the outlines of English History, such as the great periods, the succession of the Dynasties, the important events in each reign with dates "to mark the lapse of time," that the teacher is the *master*, not the *servant* of the text-book, thereby guarding against dry, formal, and unintellectual instruction.

As a rule mere text-books on history are "heavy, mechanical, and unanimating," packed full of names, and dates, and facts, and to restrict the pupils' attention simply to their contents is not worthy of the name of teaching.

6. Do not confine the historical lessons to the earlier epochs of English History, but let the most modern times with their stirring events have due prominence.

It is too much the case for the children in our elementary schools to be taught all about the "invasion of Julius Cæsar," "the settlement of the Danes," the reigns of the Norman kings, &c., and to hear little about how our great Empire in India was won, how America was colonized by, and lost to, us, and how our immense colonial possessions were acquired.

These latter ought to be specially interesting to the children of the working-classes, and should be dwelt upon by the teacher.

7. "Oral" lessons should be given, with the aid of the

black-board, on points in history which are the result of the teacher's own reading and research, and these ought to be lively and graphic.

ILLUSTRATION.—Suppose the Feudal age to be selected for treatment as an oral lesson, the teacher should proceed somewhat in the following manner:—

(*a*) Set forth the leading features of those institutions identified with the system by

- (1) A description of chivalry and its usages.
- (2) Serfdom, picturing out its character and influence.
- (3) The great castles and cathedrals erected during the period, with descriptions of domestic life and manners.

(*b*) He should also refer to the foreign and domestic wars connected with the period, describing—

- (1) The military system.
- (2) The dress and degrees of rank in the armies.
- (3) The effect of these wars.

In this way the political system, and the condition of society extending from the Norman Conquest to the wars of the Roses, might be utilized as oral lessons full fraught with interest to the scholars.

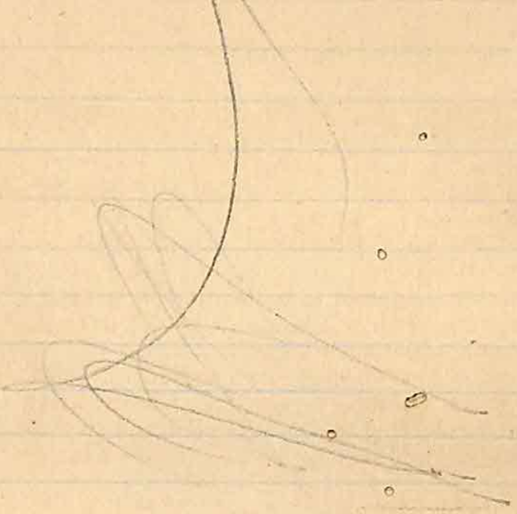
8. Some few facts on political economy ought also to be communicated in the course of the lessons on history, especially to the upper class, such as the following:—

(*a*) The condition of the labouring classes at different eras in the history of England in the past.

(*b*) The relation which they sustained to their employers.

(*c*) Their manner of living and the wages they earned, &c.

This is adapting history to the conditions of life of the large majority of those attending our inspected schools, and to their possible future experiences.



CONCLUDING REMARKS ON THE TEACHING OF HISTORY.

(1) Cultivate the art of "picturing out" in every stage of the instruction in history.

(2) Let the biographical and the historical be combined.

(3) Train the children to the writing of "abstracts" or "continuous narratives" on the subjects, from time to time, brought under their notice.

(4) Read aloud to the class occasionally descriptive passages from Macaulay or Sir Walter Scott, which will help to give colouring to a sober record, and to assist the learner in bodying forth to himself the life and spirit of the past.

The previous remarks and hints, though made with reference to a course of study in English History, apply with equal force to courses of study in the history of Rome, Greece, &c.

XV.—OBJECT LESSONS.

In a little work published on this subject by the author of this manual, the following remarks may be found in the preface.

"Many years' practical experience with all the details of school work justifies me in asserting that no part of school instruction is more interesting or beneficial to the pupils than a collective, or gallery, lesson in some department of natural history, or connected with the industrial occupations of our civilized life. Indeed, in all good schools it will be found that the time-tables for the regulation of the working of the classes make provision for lessons on such subjects, at stated intervals, during the week. The danger is that, in our elementary schools, and under the operation of *Revised Codes*, the instruction is apt to degenerate to what is merely mechanical and routine, so that the *true* teacher will be only too glad to adopt such a course of training as will tend to excite interest and to develop thought."

BRIEF HINTS FOR THE PREPARATION OF NOTES OF LESSONS.

(*a*) The pupil-teachers in the infant school, or those who have the charge of the lowest standard in the boys' or girls' school, should confine themselves to "object lessons" or lessons in natural history; as the prominent principle in the teachers' mind at this stage should be to cultivate the children's powers of observation.

Dr. Calderwood justly remarks, in one of his essays on "Teaching," that "Pictorial illustrations and object lessons must supply attraction to the youngest scholars. The earliest demands upon memory should, for the most part, involve little more than involuntary recollection."

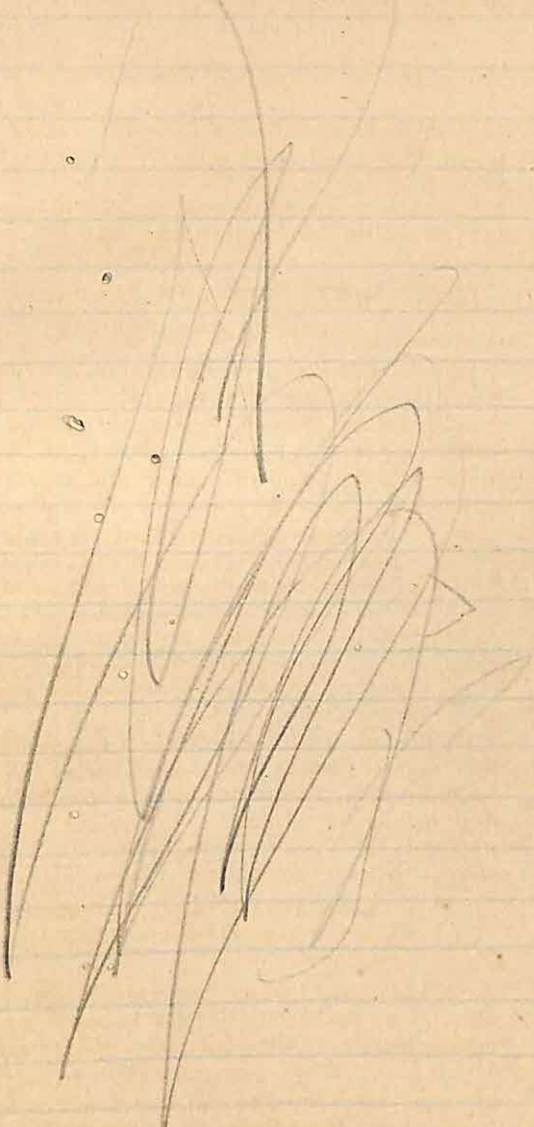
For a course of this kind the school should be abundantly furnished with objects, specimens, and pictorial illustrations.

(*b*) The subjects for the "Notes of Lessons" for the upper standards should be much more varied. Those which relate to physical phenomena, and those which relate to man, might be selected. At various stages in these standards the scholars ought to be trained not merely to observe, but to "account for changes."

Lessons upon the "tides," the "atmosphere," "water," &c., and upon prominent events in English history might be suggested.

(*c*) The young teacher should also provide himself with some good works on "Object Lessons" as guides and models for him in the preparation of his "notes."

Such works as Walker's *Object Lessons*, Ross's *How to Train Young Eyes and Ears*, Lake's *Object Lessons*, and Park's *Object Lessons*, can be recommended.



(*d*) Avoid the slavish use of "prepared" notes of lessons, however "conveniently" they may be arranged for the teacher, as this practice would little tend to his own improvement, or be productive of the best "mental training."

The teacher, indeed, ought to make these prepared notes simply his "models," or if he uses them as lessons at all he should supplement the details given under each of the subjects by careful and accurate research.

(*e*) In every "object lesson," and, indeed, in every lesson whatever, the teacher ought to use no word that is not perfectly apprehensible by the scholars, or within the range of their thought.

Mr. Fearon observes, in his work on *School Inspection*, that many teachers fail in giving a successful gallery lesson because it is not set out in "plain, homely language," and in not "dwelling on those points in it which come home to the children."

(*f*) In preparing "notes of lessons" for any class in the school, let the subject be what it may, the teacher should ask himself the question, "Is this that I am going to say such that the children can see it and feel it," and, therefore, profit to the fullest extent by my instruction?

The rule, here, simply is that every lesson should be arranged and thought out in relation to the class, junior or senior, for whose benefit it is intended. Great care should be exercised that the child should be taught by words which he clearly apprehends and fully realizes.

(*g*) Not only should the "*matter*" of the lesson be interesting as well as instructive, but the "*manner*" should be lively, cheerful, and vivacious.

The object of this hint is to induce the teacher to avoid the *lecturing* style, and to endeavour to be as *conversational* in his lesson as possible.

"The great value of object lessons does not consist in the information conveyed by them, for that at best can only be scanty, but of cultivating accurate observation and of arousing interest in things around the children, and within the range of their every-day experience."

This can be best secured, not by *lecturing* to the children, but by endeavouring to get them to take some active part in what is going on.

Instead of giving abstract rules for the *construction* of an "object lesson," two model forms are here appended, which are extracted from the author's little work on "object lessons," with some few alterations to suit the present purpose.

FULL NOTES OF A LESSON ON THE MOLE.

STANDARDS III. IV. V. and VI.

Time.—Forty-five minutes.

Apparatus required.—Picture of animal, black-board, chalk, &c.

Object of lesson.—To show the wondrous and beautiful adaptation of the entire organization for the underground life which this animal has to lead.

Heads.	Matter.	Method.
General Description.	Frame-work of mole apparently long—limbs short—body thin—ribs much the same length—bones of neck very strong.—Skeleton *cylindrical* in shape.	Sketch on the black-board a rough outline of the *bony frame*-work of the mole, and explain term *cylindrical.*
Fore Parts.	Fore-feet very strong, thick, and muscular.	Explain the purposes served by this. (1) Can dig its way with great force and rapidity. (2) Can pursue its prey. (3) Can escape the search of active enemies.

Heads.	Matter.	Method.
Hind Parts.	Small and tapering—general shortening.	Show the purposes served by this arrangement. (1) It enables the animal to pass easily through the earth which the fore-feet have thrown behind. (2) If each part of the body had been of equal thickness (*a*) Its flight would have been hindered. (*b*) It would have been more difficult to secure its safety.
Hands.	In the form of a scoop—every finger armed with a strong pointed nail—*groove* on the under surface—all come together at the tips. Fore-feet indeed turned outwards.	(1) This arrangement makes the hands a powerful kind of digger or hoe. (2) Had the fore-feet been longer they would have impeded its course. (3) Would have hindered the quick repetition of its strokes in working. The fore-feet turned outwards enable the animal to throw all the loose soil behind it. (Draw sketch of hands of mole on black-board.)
Skin.	Very close and tough—can only be cut by a sharp knife. Hair short, silky or velvety, lies smoothly in every direction. Short hairs growing perpendicularly from skin.	The tough skin prevents its being injured when digging in soil among bits of glass, sharp stones, &c. The smooth, short, silky hair preserves the skin clear as the animal moves backwards and forwards through its underground passages.
Eyes.	Very small, and covered very closely with fur.	(A rough section of habitation of mole might be drawn on black-board.) Small eyes a source of great comfort to the mole. (1) A small degree of

Heads.	Matter.	Method.
		vision only necessary for an animal destined ever to live underground. (2) Larger eyes would have been liable to accidents from dust and dirt getting into them. Protected by the fur.
Hearing and Smell.	Hearing very acute—nose long and slender.	Acute sense of sound gives notice of the most distant approach of danger. Sense of smell directs it to its food in the midst of darkness. Long nose well adapted for thrusting into small holes in search of its food.
Where Found.	Common mole abundant throughout the greater part of Europe, except extreme north and south—not found in Ireland or some of the Scottish islands. Other varieties found in North America, Mozambique, and Cape Colony.	Point out these places on the map.
Habits. **Food.**	Entirely *carnivorous.* Lives on earthworms, frogs, snails, and small birds—very voracious—digests rapidly—fond of blood—will even eat its own kind if pressed by hunger.	The habits of the animal have been inferred in previous remarks. Explain the term *carnivorous.*
Uses to Man.	Considered rather to be destructive than useful. Skin is often made into purses and other articles.	Explain, however, that they must contribute to the fertility of some kinds of soil by the continual tillage which they carry on.

FULL NOTES OF A LESSON ON NAILS AND NAIL-MAKING.

FOR STANDARDS I. AND II.

Time.—Thirty minutes.

Apparatus.—Black-board, chalk, and a number of specimens of different kinds of nails.

Heads.	Matter.	Method.
Description.	A pointed piece of metal, usually with flattened or rounded head for driving into woodwork.	Endeavour to *draw* from the children by a few simple questions what a nail is. Why it has a head.
Varieties.	(1) Screw - nails. (2) Hob-nails. (3) Driving-nails. (4) Brads. (5) Tacks. (6) Spikes, &c.	(1) These can easily be described, and their utility. (2) Used for driving into boots and shoes. Why is the *spike* small and the *head* large? (3) Why called *driving* nails? (4) Describe these either as *headless* nails or with a small projection in place of a head. (5) Flat-headed nails. (6) Used for heavy carpenters' work. A specimen of each of these varieties ought to be shown to the class, and, where possible, sketched on the black-board. At this point the teacher should explain to the class that all kinds of nails may be divided into two classes—one called *wrought* nails, because they are *worked* or made by the hand with the aid of a hammer. The other called *cut* nails, because they are *shaped*, *cut*, or made by machinery.

Heads.	Matter.	Method.
Wrought Nails--process of manufacture.	Iron of cheap quality used.	Why inferior iron is used?
	1st Process.—Iron put through a rolling-mill, then cut into thin rods in proportion to size of nail. These rods called nail-rods, and are bought in this state by *nailers.*	Explain that this rolling-mill is for the purpose of making the iron into thin bars. *Nailers*—*i.e.* those who make nails from the iron rods.
	2nd Process.—Nails made in *smithy.* Light weight put on bellows when nail-rods are in the fire.	Explain the term *smithy.* Why so? Because the rods are thin and do not require much time to heat. Why bellows are used at all?
	Two or three rods kept in smithy fire at one time. When sufficiently heated a rod is taken out and *beat* on an anvil.	Why is this necessary? Explain what the anvil is.
	Point made by beating or hammering, cut off in lengths to suit size of nail required. Cut on short chisel fixed upright on the anvil. Size of nail correctly measured by slips of iron—nail when cut drops into pan—two nails made from rod before it is again heated.	

Heads.	Matter.	Method.
Head of nail.	*3rd Process.*—Hot nail lifted by *tweezers*—put into a steel instrument with holes in it suited to size of nail—instrument called *bore*—holes at top of *bore* shaped like head of nail required. By a few blows of the hammer to thick part of nail, the head takes the shape of hole of bore, and a perfect wrought - nail is made.	Explain the word tweezers. Why made of steel?
Cut Nails.	Different kinds of machines employed for different kinds of nails. Principle, however, very much the same.	Explain that nails are more generally made by machinery, because the process is a much cheaper one than by hand.
	1st Process.--Sheet-iron cut into strips by rolling - shears. Strips held by men or boys and driven onwards into the machine as fast as nails of required size are cut off.	
	2nd Process.—The nail, after being cut off the strip, is caught by a kind of clasp, and pressed, to give a head to it.	"Some machines will turn out ten miles of nail-rods every hour."
	3rd Process.—Cut nails then put into oven and heated, and, when taken out, allowed to cool very gradually.	This process is called *annealing*—the object being to harden them and make them less *brittle.* (Explain.)

Heads.	Matter.	Method.
Where manufacture is carried on.	Nails largely made in Birmingham, and in the towns and villages around it—also largely made in France and in the northern parts of Europe. America is also famous for nail-making.	Map to be used here, and explain why the trade is carried on in this part of the country.
Concluding Remarks. History of Trade.	Large numbers of girls and grown-up women employed in making nails. Most inventions for improvement in the manufacture of nails have had their origin in America.	The art of nail-making one of the most ancient trades in Great Britain. America has got many good workmen from Britain. "Nail-making by machinery originated in the State of Massachusetts in the year 1810."

CONCLUDING REMARKS.

Should the young teacher desire to investigate further into the utility and scope of the "object lesson," the author would recommend him to consult Herbert Spencer's work on the *Science of Education*, and a more recent and very interesting volume by Professor Bain on *Education as a Science*, being vol. xxv. of the "International Series," published by Messrs. C. Kegan, Paul, & Co. of London.

XVI.—SPECIFIC SUBJECTS OF SECULAR INSTRUCTION.

Though it is hardly within the objects contemplated by this little work to discuss the method in which the various subjects included in Schedule IV. of the Revised Code should be taught, yet, as every good school now makes some attempt to impart specific instruction in one or more of them, a few general observations on the schedule are here given.

This schedule specifies twelve subjects, with three stages in each, on a successful examination being passed in any one of which, extra grants are given, by the Education Department, from year to year.

These subjects are Algebra, Euclid and Mensuration; Mechanics; Latin; French; Animal Physiology; Principles of Agriculture; Chemistry; Sound, Light, and Heat; Magnetism and Electricity; and Domestic Economy (for girls).

These are here discussed under two heads, viz. the "Languages" and the "Sciences;" though from the importance attached to poetry and English throughout all the Standards we have selected this as the fitting time to offer some observations on English literature.

ENGLISH LITERATURE.

Perhaps it would be as well, in the first place, to suggest the names of a few authors from whose works the requirements of the course prescribed in the schedule referred to might be met.

POETRY FOR STANDARDS I. II. AND III.

Sir Walter Scott's poems: *Lady of the Lake*, *Marmion*, *Lay of the Last Minstrel*. Longfellow: *Voices of the Night*, *Miscellaneous Poems.* Goldsmith: *Traveller, The Deserted Village.* Dryden's *Fables.* Thomson's *Seasons.* Wordsworth's *Minor Pieces.* Burns: *The Cotter's Saturday Night, To a Mountain Daisy,* and *The Vision*, &c. &c.

Scott is recommended because he has an innate sense of beauty drawn from every natural object, and rejoices in "air and sunshine and leafy trees," and possesses a healthy tone of feeling, glowing in genial sympathy for all human pains, sorrows, and joys. These characteristics are of the highest value in our elementary schools, as, by means of such literature, a taste for what is true, beautiful, natural, and refined might be cultivated on the part of the young attending them.

Longfellow's *Voices of the Night* are simple and natural, and breathe forth a freshness that is peculiarly attractive to the youthful mind. Many of his miscellaneous pieces, as for instance *The Village Blacksmith, Excelsior!* and *The Bridge,* have the same general features, and are clothed in language suited to the capacities of children for a "First Stage" in the Literature course.

Goldsmith has been spoken of as "In wit a man; in simplicity a child;" and *The Deserted Village* and *The Traveller* have "no equals in purity of diction, sweetness of rhythm, just feeling, and natural truth."

Wordsworth's *Minor Pieces* and Thomson's *Seasons* are all extremely well adapted for the first stage also, from the beauty of their versification and the power of "description" which they exhibit.

Of Burns it may be asked, "Where in the whole range of poetry is there anything so perfect as the poems *To a Mountain Daisy, The Vision,* and *The Cotter's Saturday Night?*"

POETRY FOR STANDARDS V. VI AND VII.

For these stages the range of English poetry is very much wider, as there is less reason for the selection of those authors whose pieces are clothed in language at once simple and easily apprehensible.

The great object, however, which the teacher should

ever have in view, in his selection of pieces for these stages, should be to introduce those only in which a healthy moral tone breathes and predominates in every page.

Amid much in our poetical imaginative literature that is fitful, irregular, immoral, and sceptical, there is a still greater quantity that may be given to youth, without the smallest hesitation, as being wholly free from every taint that might corrupt or predispose to what is immoral or profane.

The selection ought to be by all means free from what is hackneyed, but should be true to nature, pervaded by thoughtful observation, pure in diction, elegant, forcible, and fascinating. Selections therefore from such authors as Milton, Shakespeare, Cowper, Wordsworth, Southey, Keats, Rogers, Kirke White, Hannah More, Felicia Dorothea Hemans, &c., can be highly commended.

HINTS FOR CLASS INSTRUCTION IN ENGLISH LITERATURE.

1. The first duty of the teacher is to carry out systematically a careful explanation of the meanings of words.

> This ought not to be done in a "dry, technical, dictionary-like style," but by the use of the black-board, giving a lively, clear, and animated description and illustration of the words.

2. Train the pupils in the *use* of language by encouraging them from the first stage to repeat the substance of a paragraph in their own words, "their manner of doing so being criticised and corrected by the teacher."

> This is something more than a mere examination on the *subject matter* of the lesson. It implies also an examination on the *language* of the passage, certain expressions and ideas being "pressed on the children's notice and associated with certain thoughts."

3. Each passage in the authors selected should be care-

fully analysed, so as to conduce to habits of accuracy and observation, and to the pupil's ability to "pick out and distinguish the leading and subordinate thoughts, to follow the course of an argument, and to grasp the real drift and meaning of a passage."

It has been remarked by a writer on education that "Analysis insensibly gives a pupil the habit of pausing on what he reads, and familiarizes him with the recognized combinations and current idioms of the language."

4. The teacher should carefully explain all allusions, "metaphorical expressions, and peculiar idioms" that occur in the different passages, and should see that they are properly translated into simple grammatical prose.

If pupil-teachers and assistant masters would set themselves with diligence and earnestness to the task of qualifying themselves to conduct a class on "English Literature" according to the system herein recommended, we might look "with confidence to the fruit that would be reaped from a generation nurtured with the kindly milk of their native literature and their noble mother-tongue."

THE LANGUAGES.

From the fact that comparatively few of our young teachers have qualified themselves to impart specific instruction in the subjects included under the term "Languages" in Schedule IV. of the Revised Code of Education, our remarks must be necessarily brief on this, and intended more to show their importance as a branch of study than to indicate the manner in which they ought to be taught.

The subject therefore may be considered under the heads—1st, The Classical Tongues; and 2d, Modern Languages.

THE CLASSICS.

Under this designation Latin only is specified in the Schedule, though our remarks may apply to the teaching of Greek as well.

The extent of each year's course is clearly defined, and of course varies in difficulty from stage to stage. Though it is but very little, comparatively speaking, that a scholar in one of our state-aided schools can acquire of the Latin tongue, still that little may be turned to good account. The study of Latin is a very effective discipline for the mind, and, at the same time, it furnishes a rich store of knowledge which has a highly practical bearing on an English youth's ability to appreciate, and to use with facility and elegance, his own mother-tongue, which is, to a large extent, derived from Latin. The larger his acquaintance, therefore, with the language of ancient Rome, the deeper and more thorough will be his understanding of that living language which he has to speak and write.

This very fact should suggest to a teacher's mind the best manner in which the subject can be taught, so that his pupils might derive the largest possible amount of benefit from the very short time he has at his disposal in which to impart instruction in Latin.

SUGGESTIONS FOR CLASS INSTRUCTION IN LATIN.

1. Let Latin grammar and English grammar be taught simultaneously, beginning, of course, with Standard V., and as far as boyish minds at this stage could appreciate, explaining the nature of the parts of speech and the principles of classification.

> Even at this stage, by adopting simple methods of explanation, the children might be brought to appreciate the uses of so many inflected forms in Latin, as for example, the large number of cases, &c., a Latin noun has, as compared with an English noun.

2. When the children have committed to memory portions of the Latin vocabulary, their attention should be directed to the processes by which many of the words "have passed into the English language and become naturalized there."

> This would practically show how our language has been enriched by contributions from the Latin, and the habit of following, by derivation, words in English down to their original condition "is not only an exercise in the science of language," but also one "which will teach the pupil a good deal of Latin, and make him more thoroughly intimate with his own mother-tongue."

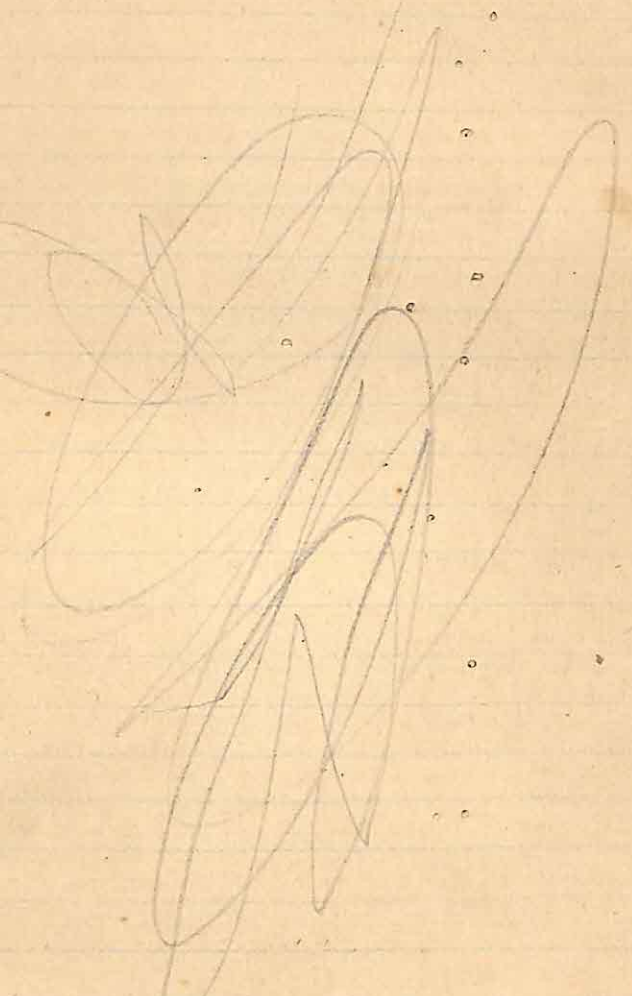
3. The words which are derived from Latin, occurring in their reading books, should be carefully pointed out, and their roots "collected into a vocabulary" and committed to memory.

> In reading such works as those of Milton, Tennyson, Dryden, Macaulay, and many other writers of the same school, this practice would make him accurately acquainted with the exact force and meaning of a great many words that might otherwise be difficult of apprehension.

4. The teaching throughout the whole course of Latin should be carried on "chiefly in relation to English language and literature, and just as far as it is necessary for understanding the structure and genius of our native tongue, and for appreciating the spirit of our national literature, the forms it has assumed, and the allusions that are scattered through it."

MODERN LANGUAGES.

Under this head in Schedule IV. French only appears, but German might be included, the latter language being seldom selected for examination. The remarks



here presented on the teaching of these languages are, therefore, necessarily brief, as instruction in them is not likely to be intrusted to young teachers.

While the teacher must conform to the requirements laid down in the schedule in the different stages, yet as these languages are *living tongues*, spoken by nations with whom we sustain intimate commercial and political relations, and whose literature is of great importance to us, the purely scientific method of teaching ought not to be followed.

SCIENTIFIC METHOD OF TEACHING A MODERN LANGUAGE.

(*a*) The grammar of the language is first taught to the pupils, *i.e.* the *facts* and *laws* which are identified with, and govern, the orthography, etymology, and syntax of the language are first taught.

(*b*) This method is simply that recommended in the teaching of English Grammar.

MATERNAL METHOD.

This method proceeds on the principle of training the scholars to read and speak the language mainly by imitation, as in learning their mother-tongue. This latter system may also be termed the "conversational," and, of course, assumes that the teacher has a good appreciation of the language itself, both in regard to its pronunciation and its idiomatic and grammatical construction.

The *scientific* method is the one most usually followed, but, for *practical* purposes, the *maternal* method is perhaps to be most highly commended, though it is almost impossible to be followed in our inspected schools.

THE SCIENCE SUBJECTS.

In the Specific Schedule the subjects are Mechanics; Animal Physiology; Botany; Principles of Agriculture; Chemistry, Sound, Light, and Heat; Magnetism and Electricity; and Domestic Economy (for girls).

Appended to the schedule is a note of very great value, which is here quoted as forming a very safe guide in regard to the manner in which instruction in these subjects ought to be imparted.

"It is intended that the instruction of the scholars in "the science subjects shall be given mainly by experi-"ment and illustration, and, in the case of physical "geography, by observation of the phenomena presented "in their own neighbourhood. If these subjects are "taught to children by definition and verbal description, "instead of making them exercise their own powers of "observation, they will be worthless as means of educa-"tion. It cannot, therefore, be too strongly impressed "on teachers that nothing like learning by rote will be "accepted as sufficient for a grant, and that the examina-"tions by the inspectors will be directed to elicit from "the scholars, as far as possible in their own language, "the ideas they have formed of what they have seen."

The limits of the various subjects of science are extremely well defined in the schedule, and among educationists meet with a considerable amount of commendation.

Perhaps the most interesting, and certainly the most useful of these various subjects for instruction in elementary schools is that of animal physiology, and its selection is to be commended for the following reasons:—

1. Young people ought to know so much of the structure and functions of their own bodies as to give them an impulse towards obedience to the laws of health.

2. Those influences which injure or preserve health can by the systematic study of physiology be forcibly

brought under the attention of the young, as for example—

(*a*) The need of pure air.

(*b*) The need of sufficient and wholesome food.

(*c*) The need of absolute cleanliness in the person as well as in the home.

3. By an acquaintance with a few facts of physiological science the "medical man can secure," in many cases, "the co-operating intelligence of the patient in the process of cure."

HINTS FOR CLASS TEACHING IN SCIENCE IN DAY-SCHOOLS.

1. The teaching should be as practical as possible, as recommended in the note to the Schedule of Specific Subjects; that is to say, "The teacher should present to his pupils actual experiments and specimens."

> In the opinion of Professor Huxley—no mean authority certainly—physiology cannot possibly be taught with any measure of intelligence unless the student practise dissection. This, of course, might be done in connection with a science class in the evening, but is hardly practicable in our day-classes.

2. Diagrams, excellent in quality and design, ought invariably to be used with the class, and occasionally Saturday afternoon excursions ought to be made with the scholars, especially in prosecuting the study of botany.

3. A judicious combination of the "lecture and the text-book" is perhaps the most effective mode of carrying on a course of instruction in science.

4. Let there be constant practice in the taking of "notes," and a reproduction of the science lessons by the class, these exercises being corrected with much care.

The results of a proper course of science training to the children in the day-schools should be "to develop a self-reliance in adapting their knowledge to their vocations, and also in the further pursuit of truth as the most elevated of their enjoyments."

DRAWING LESSONS.

Only a very few words can be said in a work of this kind on the subject of drawing, and what little is said is simply intended to encourage the young teacher to foster, as far as he possibly can, a taste for drawing among the children under his care. Mr. Herbert Spencer remarks, in one of his works, that the child's earliest attempts to draw should by all means be encouraged, so that when the age for imparting formal lessons in drawing is reached, there will exist a facility that would else have been absent.

Without going the length of Karl Froebel, who asserts that "Drawing lessons ought to be the first of all lessons given to children," we can, at least, appreciate the following reasons for encouraging its systematic instruction even in our common schools.

1. To diffuse a knowledge and love of art amongst artisans and others of similar rank.

> A writer in the *Museum* some time ago, with reference to the diffusion of a love of art amongst men of this class, said that it is "Not to enable them to paint beautiful pictures, but to make better shaped cups and saucers and crockeryware, to hang their rooms with less offensive papers, to change their homes from *chambers of horrors* to abodes of good taste. It is in fact the application of art to material wants, so that the pleasures of taste may be added to the use of even the common necessaries of life."

2. To enable our workmen in the various trades and professions to "compete with, and even excel," in their productions, "the superior designs of foreign craftsmen."

> By making a certain amount of art a common school requirement, we are thereby helping forward the young, when they enter on the practical duties of life, in "their various crafts and mysteries."

The teacher who has qualified himself to give systematic and superior instruction in art is a most invaluable "adjunct to our great manufacturing centres."

With respect to the best methods of conducting classes in drawing, these can be best acquired by a course of instruction under a certified teacher of Art, in one of the many classes scattered throughout the country in connection with the "Science and Art Department at South Kensington," and from a diligent study of the different treatises on Art published in London and Glasgow To these, therefore, the pupil-teacher is directed.

XVII.—SCHOOL REGISTRATION.

INTRODUCTORY.

There is no feature connected with the daily routine of a school under Government inspection, and in receipt of augmentation grants, which is at once so important and so delicate in its nature and character as that which falls under the generic term *Registration.* It is hardly necessary that teachers should be told the reason of this. Still, every teacher in every State-aided school cannot be impressed too strongly with the fact that our present "Code" has an exchequer side. By this we mean that it is based on a system by which large sums of public money—annually voted by Parliament—are administered, and that registration plays a very important part in the calculations upon which these grants are made to the individual schools visited periodically by Her Majesty's Inspectors.

Hence the correctness of the school registers, the persistent and invariable accuracy of the details which they are intended to body forth, are all parts of a serious trust and responsibility which teachers and pupil-teachers alike should endeavour faithfully to realize. The keeping of the school registers is simply equivalent to the reposing of a trust in the teachers of public money, and any deviation from perfect accuracy in those details upon which grants are claimed is a betrayal of trust, and certainly does not fall short of theft or robbery.

True, the teacher whose *moral backbone* is none of the strongest, and on whom temptation presses strongly, finds "a terror to evil-doers" in the dire consequences of detection should he fail in the faithful discharge of his duty. Nothing, however, is more gratifying to us than to perceive that year by year the "*Black List*" in the Blue Book annually presented to Parliament by the Committee of Council on Education has sensibly declined, and in that for 1885 assumes very small dimensions indeed.

Before entering *seriatim* into the discussion of the nature and character of the various registers which are required in inspected schools, and attempting as well as we possibly can to make such suggestions, especially to the younger teachers, as to the best kinds to select and the best method of keeping them, we should like to submit a few general observations which appear to us of pressing importance.

In the first place, then, we would observe that at every inspection Her Majesty's Inspectors are instructed to report to the Department whether the registers "appear to have been kept under proper supervision on the part of the managers." Further, we find from a circular issued by the Department that "these registers should be checked at uncertain intervals, and at least once in every quarter by the managers, but at the time of checking them an entry should be made in the log-book. They should also be signed at the same time by the teachers responsible for them." We have instanced these official observations, because we fear that school managers and teachers in not a few cases hardly realize the duty laid upon them in this respect. Nay, we believe that some teachers are even disposed to consider the managers as "interfering" and as "officiously" troublesome when they visit schools for this purpose.

Now, we think that all teachers should endeavour to help the managers to this duty, and encourage them to a constant and faithful discharge of it. In those cases, too, in which the managers have a difficulty in fully discharging the duty, we think that teachers should take some pains in enlightening them, and opening up the way for an easy and simple method of overtaking it. Mr. Graves, in some very sensible remarks made by him in *The Elementary School Manager*, observes that the fact of the managers visiting a school for a purpose of this kind "need imply no distrust of their teachers; their object is simply to make themselves personally acquainted with the facts to which they will have to certify. Hence their examination of the registers, in the absence of anything either in the past history of the school, or in circumstances observed during their visit to raise suspicions, should be characterized by an entire absence of anything resembling distrust." Not only so, but it must be a great relief and comfort to the teachers to feel that a most responsible duty has been faithfully undertaken and discharged by the managers, and that the attesting certificate given at the close of the school year is not one of form, but of reality and truth.

THE REGISTERS.

In the examination questions set to candidates for Queen's Scholarships, and occasionally to first year's students in training colleges, we find the following, among others, bearing on the same subject to which a reply is expected, and a want of knowledge of which would be likely to be fatal to success, viz., "What registers are required in a school under Government inspection and in receipt of Government grants?" We feel that this question forms a very fitting introduction to our present paper, and that the best answer we could give would be to reproduce, for the information and guidance of young teachers especially, a few sentences from one of the circulars issued by the Education Department on the subject.

"In every school there should be—

"(1) A register of admission, progress and withdrawal.
"(2) A register of daily attendance for all scholars.
"A book of summaries."

The Code issued year by year by the Committee of Council on Education is careful to instruct that "these registers must be provided by the managers out of the funds of the school, so as to be the property of the school, and not in any sense of the teacher."

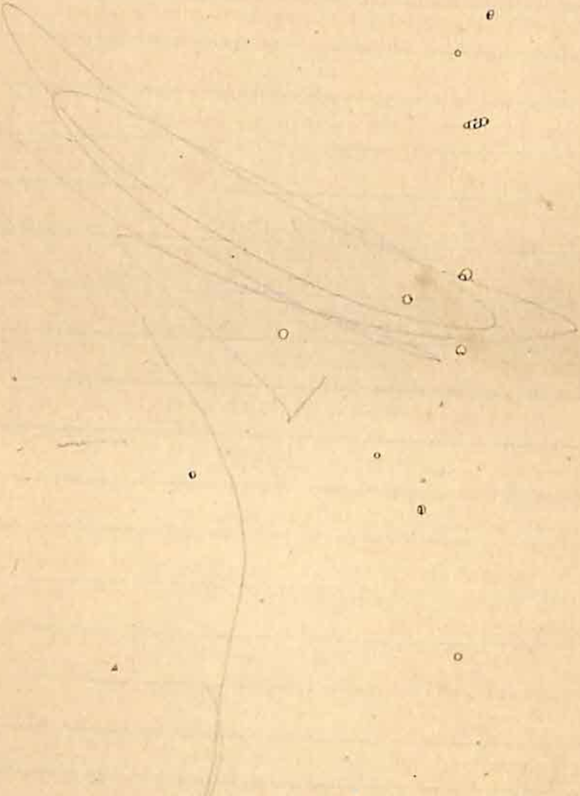
This latter instruction is one of great importance, as in past years it not unfrequently happened that when the masters or mistresses left schools under circumstances of irritation, and when the relations between them and the managers had been strained to the very utmost, they also removed with them the school registers. The result was that the new teacher was seriously inconvenienced in work, and subjected to great annoyance by the want of them, the reason assigned by his predecessor for their removal being that they were his personal property, and had been purchased at his expense.

General and yet sufficiently well detailed description is given by the Department as to the nature and character of these various registers, though it is added, "My Lords do not at present insist upon uniform registers as a condition of annual grants, but they trust that, by the co-operation of the managers of schools, such an extent of uniformity may be gradually introduced as to make the adoption hereafter of a uniform system of registers a matter of little difficulty."

Almost every publisher who caters for the wants of schools has a set of school registers which have features more or less common. Occasionally we find some slight departures in the arrangement for details, but in the broad and general features there are indeed but few departures from a common model.

ADMISSION REGISTER.

In the circular on "School Registers and the Method of Keeping Them," issued by the Department, we find



the following description of an *Admission Register*, which has undoubtedly been taken as the standard of structure by the numerous publishers throughout the kingdom. After stating that the admission register should be kept exclusively by the head teacher, "and made up at least once a week," it goes on to say that this register should show distinctly for each child in the school—

(*a*) Its number on the register.

(*b*) The date of its admission, or re-admission, day, month, and year.

(*c*) Name in *full*, Christian and surname.

(*d*) Name and address of parent or guardian.

(*e*) Whether exemption from religious instruction is claimed.

(*f*) Exact date of child's birth, day or year.

(*g*) Last school attended, if any.

(*h*) Highest standard in which previously presented.

(*i*) The successive standards in which presented in *this* school.

(*j*) The date of leaving, and—lastly,

(*k*) This register should have an alphabetical index.

Before discussing any details of the above we would direct attention to (*i*) and (*k*), which, we have good reason to believe, from our conversation with several Inspectors, are too frequently overlooked or but very imperfectly attended to.

ATTENDANCE REGISTERS.

It would be both unwise and unjust to set up an invidious comparison between one register and another, and specially to show a preference for one set over those of others published by the different school-book firms throughout the kingdom. The fact is, the points of difference between the various sets are very trifling indeed, though no doubt several seem somewhat more conveniently adaptable than others. By this we mean that, by reason of the greater width of the register, and the greater scope afforded for spacing and marking, daily registration is greatly convenienced, as both the eye and the hand are largely assisted to accuracy.

As a matter of simple preference also we are disposed to set a higher value upon a daily register in which the lines and space for fees received during the quarter appear on the *left* hand of the name of the pupil, and the weekly totals after the attendances on the *right*. In this way two separate and independent *facts* of registration are closely grouped in connection with their own weekly details, and less tendency excited in the direction of mistakes, which are so apt to occur when fees, daily and weekly attendances, lie too contiguous the one to the other.

The principal thing, after all, is, not whether one kind or class of register be more convenient or suitable than another in some obviously trifling particular, but whether the registers are kept with persistent and invariable accuracy. Mr. Graves, in his work, *The Elementary School Manager*, points out the following features in registers which afford a reasonable ground for an exceptionally strict examination of the class registers of a school on the part either of school managers or Her Majesty's Inspectors, viz. :—

(*a*) An improbably large number of attendances, *e.g.*, the greater number of the children invariably marked present *during a very wet week.*

(*b*) If the entries for days together present the appearance of having been written *at one and the same time.*

(*c*) If in any class register any "weekly total" as set down does not tally with the sum of the attendances credited to all the members of the class during that week.

(*d*) If the total of the attendances made at the then, or any previous, meeting or meetings is not entered at the foot of each class register.

(*e*) If a register shows *blanks*, *erasures*, or *pencil marks.*

Mr. Graves was a singularly careful and intelligent Inspector in all that pertained to registration, and while in one of the divisions of the West Riding of Yorkshire, brought about many beneficial reforms with respect to school attendances.

If we take his suggestions as pointing out how, *per contra*, registration should be carried out, we believe that the points we have just quoted would be of some effective service.

One of the things so seriously complained of by almost every teacher is the time spent in "calling over" the registers. Every moment of school time is now so intensely valuable when the stringent requirements of the Code are considered, that the loss of even a few in the course of the day is a matter of great consideration. Various plans have been suggested to economize the time spent in work of this kind, and among the many the following possesses, to our thinking, considerable value.

1. In each class give each pupil his or her own number on the register, and let the scholars sit according to their number.
2. Give occasional practice by numbers, rather than by names.
3. When the register is to be *called over*, the teacher will easily find out the children who are *absent* by a hurried running over the numbers, beginning with 1, and continuing until the highest *registered* number in the class.
4. The absent children must first have a cipher (0) set opposite their names—the number of ciphers subtracted from the total of the class will, of course, give the number of children present.
5. The accuracy of this detail can be found at a glance, and then the teacher has simply, with as much rapidity as possible, to place the mark of presence after each *remaining* child and place the total at the bottom. We are perfectly certain that this plan would not occupy more than one-half of the time taken up by the ordinary plan of calling out each child's name in the register and waiting until his or her presence or absence has been ascertained. Indeed, occasionally an absence mark, or *vice versa*, is made by the ordinary method, simply by the mechanical way in which marking is carried out, and suspicious erasures, therefore, not unfrequently creep into the details.

One of the most important evidences of accuracy in the keeping of the daily register is certain to be borne out by the appearance which it presents to the eye of an examiner. If the registers are kept *neatly*, if the names written in them are *legible* and *in full*, and if there be no *erasures* there is strong circumstantial evidence that care, diligence, and a conscientious desire for accuracy have been the guiding principles of the teachers who kept them.

THE ADMISSION REGISTER.

We have reason to believe that the "Admission Register" is not kept with that systematic regularity which its importance demands. It ought never to be in arrears, as is unfortunately a matter of frequent occurrence in some schools. This register should lie constantly on the master's or mistress's desk, and no scholar seeking admission into school for the *first* time, or returning after a continuous absence of six weeks, should be allowed to receive instruction in any class until all the particulars required by this register are carefully entered.

The following hints are suggested by the circular issued by the Education Department on the subject, and also by the general character of the book itself as issued by nearly every publisher of school registers, viz.:—

(*a*) Enter the *full* name of the child, *e.g.*, *James Robert Thompson*—not J. R. Thompson—putting, however, the *surname* first.

(*b*) Be careful also that the rotation number is entered opposite the name.

(*c*) Exercise equal care in giving particulars of the parent and residence of parent in the columns prepared for the purpose.

(*d*) In no case omit to enter the name of the school *last* attended by the child.

This is important, as circumstances sometimes arise in which it becomes necessary to make inquiries respecting the standards (if any) previously passed by the child, both

in respect to the filling up of the inspection schedules and the obtaining of a labour certificate.

(*e*) Be careful to obtain *at once* satisfactory evidence of the age of the scholar, and enter *day*, *month*, and *year* in the proper column.

(*f*) When the duplicate schedules are returned by Her Majesty's Inspector after the examination of the school, let the standard passed by the child be entered at once, showing, at the same time, whether any child has failed in *one*, *two*, or *three* subjects. If this were uniformly observed a great deal of labour and annoyance would be saved to the teachers by the constant inquiries which are made by the parents respecting their children when the age for employment in half-time or full-time labour is reached. Besides, it facilitates the preparation of the Government schedules, and enables the managers to certify with ease and accuracy the facts of *representation* or otherwise at the close of the financial *school year*.

(*g*) The index appended to every admission register requires also careful attention, and should be uniformly written up. Without its aid, indeed, the difficulty of testing its accuracy, and of tracing the children through the attendance registers, must be very great, and must lead to a serious and unnecessary waste of time.

(*h*) In mixed schools it might be a convenience to write the names of boys and girls in different coloured ink so as to enable the teacher to find out the number of boys and girls admitted separately throughout the school year—a fact requiring certifying in Form IX.

Mr. Graves gives, as an Inspector of schools, very clearly and in simple language, in the work to which we have previously referred, one or two *instructions* by which the manner in which the admission register is kept may be tested.

1. Select any child in the school, and look for its name in the index. Then notice the number entered in the index opposite to the name and look for the corresponding number in the body of the register. This will give you the name you want.

The object of the foregoing is to ascertain whether the admission is so kept as to render reference to any part of it a matter of perfect ease.

2. Having found the name in the body of the register, see whether the child's *day*, *month*, and *year of birth*, and *day*, *month*, and *year of admission to the school* are given. In the case of children shown to have entered since 1st January, 1878, call occasionally for the child's school-book or other recognized certificate, and compare the particulars there entered with those in the register.

3. Inquire in what standard the child now is, and see whether the register shows it to have been last entered in a *lower* standard, or, if presented in the same standard, whether it is shown to have failed in two subjects.

Some of these instructions scarcely apply under the *Code* of 1885. Still most of our admission registers have ruled spaces for these various particulars, and though the *Code* may not demand them, they are of special service in relation to juvenile employment under the Factory and Workshops Acts.

The one point of fundamental importance, and towards which all our observations on school registration would tend, is the keeping of the various books with that persistent care so as to render the details set forth by them perfectly accurate and easily apprehensible for reference.

THE SUMMARY.

It would be well to keep before our minds, when we attempt to deal with this, the last of the points upon which we intend to touch, what these *Instructions* are which the Department has laid down for the keeping of the "Summary." These can be dealt with under two heads:—

1. "The Summary should contain (*a*) the weekly entries of the attendance of each class, transferred from the class registers every week into appropriate pages, and the average attendance for each week; (*b*) at the completion of the year the annual average for the whole school

should be struck and entered, of boys and girls separately: (1) under 3 years of age, (2) between 3 and 7 years of age; (3) above 7, and (4) above 13, and the highest weekly average noted; (c) the Summary should be clear, and should at once show the results asked for in the manager's return (Form IX.)."

2. "In this book the duplicate examination schedules, and copies of the returns in Form IX. should be preserved, together with a list of scholars qualified to be presented, but not presented, with the reasons for their not being presented, and likewise of scholars presented a second time in the same standard, with the reasons for their being so presented."

In the papers of the students of the first year set for school management there are invariably found several questions which are intended to test the knowledge of the candidates respecting such points as *average; number present at all; average number of attendances; average for the quarter; average number in attendance, &c.*

In giving replies to any of these, accuracy is of fundamental importance, both because of the danger of failure, and the risk encountered in the process of registration in ordinary school-keeping under Government inspection. A word or two upon each of these points might, therefore, be found of advantage.

Averages.—By the term average we understand the "mean of several unequal quantities." For example, if we have a series of unequal quantities or numbers, "a certain mean may be found such that the sum of all the excesses exactly equals the sum of the deficiencies. The usual—and, indeed, the only and correct—method of obtaining the result is to add up the several quantities and divide their sum by the number of the quantities—*e.g.*, 7, 4, 3, 8, 2 = 24 (the sum) ÷ 5 (the number) = $4\frac{4}{5}$ (the average).

Average attendance.—We are to understand by this phrase the average number of children present "each school time" during any given period, such as in one week, one month, one quarter, or one year.

We are very apt, however, to be misled by the expression, as a confusion sometimes arises in the mind between the expressions *average number of children* and *average number of attendances.* In the one case the result brings out by a similar process the average number of *children*, and in the other the average number of *attendances* made by the children.

1. "The average number in attendance for any period is found by adding together the attendances of all the scholars for that period, and dividing the sum by the number of times the school has met within the same period; the quotient is the average number in attendance." (Article 26, New Code.)

2. "The average number of children present for any period would be found by adding together the number of children present at all during each unit of that period, and dividing by the number of times the school has met within the same period.

3. Let it be carefully borne in mind too, that, "for the purpose of calculating the average attendance, but for no other purpose, each *attendance* of a half-time scholar shall be counted as one attendance and a half."

4. *Number present at all.*—There is little difficulty in understanding this expression. It simply means the number of children that have made even a single attendance during any given period.

It is of the highest moment that the Summary should be posted up from week to week, inasmuch as the daily attendance register might unfortunately be lost or destroyed, in which case the details contained in the Summary would be most invaluable. "Summaries," say my Lords of the Committee of Council on Education, "should never be destroyed."

XVIII.—PHYSICAL EDUCATION.

This subject is only touched upon here, and that not as if it formed an essential part of a pupil-teacher's duties, but simply to explain to the pupil-teacher what is meant by physical training as applied to inspected schools, and to point out the best means by which it can be secured.

For pupils attending our common schools, such subjects as *rowing, croquet, archery, walking on beams, vaulting*, &c., need not be discussed.

The subject must be narrowed, and the importance of physical exercises *in* and *out* of school considered only with a view to promote health, to secure correct habits of body, and to relieve the tedium of lessons.

Experience shows that when children are bright and lively they do the best work, and in as far as the physical exercises practised at school serve to make young people "lively and vigorous, the outlay is as profitably bestowed as if it had been in food and clothes."

Expansion exercises and simple drilling can all be practised *in* school, and in the play-yard; but, in fine weather, the children should assemble for some little time *before* the morning and afternoon meetings of the school to be more thoroughly drilled and trained to correct habits of body.

The children would take "spontaneous delight in the exercises themselves," and the result would be the strengthening of the body and the securing a larger share of vigorous physical health.

This drill is no doubt more effectively given by the master or mistress, who could easily acquire the necessary qualification either from a diligent study of several works on "School Drill" which have been published lately, or by receiving some little training from a drill-sergeant attached to the militia or volunteer forces located in almost every town and village in the country.

XIX.—CONCLUDING REMARKS TO THE YOUNG TEACHER.

Many subjects have been left untouched in this little manual, as hardly coming within the scope which the author had in view. For example, he has not discussed the important and vexed question of *corporal punishment* in schools, *prizes and rewards, school organization, music, needlework, time-tables*, &c.

The pupil-teacher is earnestly recommended not merely to study "method" as applied to teaching, a restriction which must necessarily cripple his own intellectual power and resources, but to extend his studies to works that deal with the *philosophy of education.*

A list, that is almost an exhaustive one, is here given of the best works in this department, any one of which may be read with much profit and delight.

WORKS ON THE SCIENCE OF EDUCATION.

Education as a Science, by Professor Bain.—Kegan, Paul, & Co. *Education—Intellectual, Moral, and Physical*, by Herbert Spencer. *German Letters on English Education*, by Dr. L. Wiese. *Lectures on Education*, by Dr. James Donaldson. *Life of Pestalozzi*, by M. Krüse. *Philosophy of Education*, by T. Tate. *Inaugural Address at St. Andrew's University*, by John Stuart Mill. *Essays on Educational Reformers*, by Mr. R. H. Quick. *Lectures on Education*, by Dr. Adolphe Oppler. Goethe's *Wilhelm Meister*. Pillans's *Contributions to Education*. *The Schools of Charles the Great*, by Mullinger, 1877. The *Pædagogische Bibliothek*, edited by Karl Richter, Leipsic (now in course of publication). *Quelques mots sur l'instruction publique*, M. Breal, 1874. Isaac Taylor, *Home Education*. F. A. Wolf, *Uber Erziehung*, edited by Körte, 1835.

The American Journal of Education, by Henry Barnard. ("By far the most valuable work in our language on the history of education.") Dr. Arnold's *Miscellaneous Works*.

The Training System, by David Stow. *Traité des Etudes*, by Rollin.

In addition to these the "Reports on the Common School System of the United States and Canada, by Bishop Frazer; on the Burgh Schools in Scotland, by D. R. Fearon; and on Secondary Education in France, Germany, Switzerland, and Italy, by Matthew Arnold, included in Parliamentary papers (3857) 1867 and (3966*b*) 1868," may be consulted with much intellectual and professional advantage.

APPENDIX I.

EXTRACTS FROM CIRCULAR LETTER, NO. 153, FROM THE EDUCATION DEPARTMENT, TO HER MAJESTY'S INSPECTORS OF SCHOOLS.

I.

CHARACTER OF SCHOOLS AND TEACHERS.

In connexion with this subject, as affected by the Code, and your own action as a representative of the Department, I have to direct your attention to their Lordships' views respecting the moral character of the Schools, and the character and condition of the Teachers.

My Lords are anxious that you should lose no suitable opportunity of impressing upon both Managers and Teachers the great responsibility which rests upon them, over and above the intellectual teaching, in regard to the moral training, of the children committed to their charge. You will express your special approbation of all Schools where, from knowledge which you have gained by repeated visits, you observe that a high moral tone is maintained; you will not fail to enlarge upon the Article (19A)* in the Code respecting Discipline as showing the interest taken by Parliament and by their Lordships in this all-important subject; and, where it is not satisfactorily attended to, you will not hesitate to recommend a reduction of the grant. You will, in the spirit of that Article, urge the Managers to do all in their power to secure that the Teachers maintain a high standard of honesty, truth, and honour in their Schools, and that they not only inculcate upon the children the general duty of consideration and respect for others, but also the special duty of obedience to, and reverence for, their parents.

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* "The Inspector will bear in mind, in reporting on the organization and discipline, the results of any visits without notice (Article 12) made in the course of the school year; and will not interfere with any method of organization adopted in a Training College under inspection if it is satisfactorily carried out in the School. To meet the requirements respecting discipline, the managers and teachers will be expected to satisfy the Inspector that all reasonable care is taken, in the ordinary management of the School, to bring up the children in habits of punctuality, of good manners and language, of cleanliness and neatness, and also to impress upon the children the importance of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act."

II.

PUPIL TEACHERS.

It is needless to remind you that the condition of the Pupil Teachers of your District should receive your very careful consideration. My Lords have reason to fear that sufficient care has not been bestowed upon them in many cases, either by Managers or Teachers. You will do well therefore to bespeak the special attention of the Managers to this important subject. You will oppose the appointment of sickly precocious children as Pupil Teachers, and you will insist upon good health as an essential qualification for those who aspire to the Teacher's office. You should warn the Managers and Teachers against allowing Teachers of this tender age to be overworked, and should point out to them that under the revised Memorandum of Agreement, arrangements can be made, with great general advantage to the School, by which the Pupil Teachers may be allowed a portion of the school hours for their own instruction or preparation of lessons, provided that the time so employed is devoted exclusively, like their five hours of special instruction, to the subjects prescribed by the Code. You should discourage the habit of sacrificing to the preparation of their lessons the times allotted for Meals, and you should specially warn Teachers of the serious effect upon the health of the female Pupil Teachers—girls of 14 to 18 years of age—of being kept standing all day at work in their

Schools. You should endeavour to secure that the Pupil Teachers receive a regular course of systematic instruction from their Teachers, instead of a mere "Cram" preparation for examination, and you should do all you can to maintain in the Teachers and Managers a sense of responsibility for the formation of the character as well as the attainments of their Pupil Teachers.

APPENDIX II.

QUEEN'S SCHOLARSHIP QUESTIONS ON SCHOOL MANAGEMENT AND METHOD SET AT THE ORDINARY EXAMINATIONS SINCE 1874.

SECTION I.

1. Illustrate from your practical experience in a day-school or elsewhere the vital importance of securing good order in a school.

2. In what way did the head-teacher of your school support the authority of the pupil-teachers? Should pupil-teachers be allowed to inflict corporal punishment? Give reasons for your answer.

SECTION II.

1. How would you teach children to write: (*a*) on slates or (*b*) on paper?

What are the important points to be attended to in teaching children to write?

2. What kind of desks would you like to find in any schoolroom in which you might have to teach writing?

Give the ground of your preference.

SECTION III.

1. Write an essay on the teacher's influence in and out of school.

2. Write notes of a first lesson on:
(*a*) The verb.
Or (*b*) Long division.

SECTION IV.

1. Describe the various methods used to teach spelling in your school. Did you rely chiefly on the eye or on the ear in teaching spelling?

How did you correct written exercises in spelling?

2. By what means would you try to prevent copying either

in a dictation lesson, or in working examples in arithmetic? Show how copying is calculated to produce general demoralization in a school.

SECTION V.

1. How would you begin teaching geography to a class of young children?

Give the substance of a few of your first lessons.

2. How would you commence teaching arithmetic in an infants' school? and how far do you think children under seven may be expected to go in learning arithmetic?

SECTION VI.

1. What were the chief hindrances in the way of the progress of the children you used to teach? and how did you attempt to remove them?

2. Were any special means used to secure the co-operation of the parents of the children who attended your class? and if so, what was the result?

SECTION VII.

1. By what special means would you try to promote (*a*) truthfulness and (*b*) punctuality among your scholars? State the motives which you would lay before the children as incentives to the constant observance of truth and punctuality.

2. Write notes of a lesson on one of the following subjects:—(*a*) Numeration and notation. (*b*) The inflections of the verb. (*c*) Home lessons. (*d*) Kindness to animals.

SECTION VIII.

1. Name some of the qualities of good reading.

2. What peculiarities of pronunciation of vowels or consonants have you observed in your scholars, or in your own locality?

Name some words beginning with the aspirate, in which it should not be sounded.

SECTION IX.

1. In learning the multiplication table, which products do children commonly find most difficult in committing to memory? Account for some of the most difficult cases.

2. Before giving out a passage for dictation, what preparation is needed to prevent possible mis-spellings?

SECTION X.

1. Name some oral lesson that a fourth-year pupil-teacher is capable of giving, which a second-year pupil-teacher should not give.

2. A want of common sense is often shown by children in answer to sums and in geographical quantities. Give some examples of this fault, and state some causes from which it proceeds.

SECTION XI.

1. In giving an object lesson, what is the aim of the teacher in using terms denoting the qualities of the object?

What is meant by vulgar and by pedantic language?

2. What methods were used in your school to prevent copying in arithmetic?

Show that it is not fair to very young children to give them an opportunity of copying.

SECTION XII.

1. What is truthfulness? Name some ways in which a child may be untruthful in act without saying a word.

2. What is the advantage to young children of having lessons on such subjects as a spider, wool, sugar? Enumerate the qualities or peculiarities in each case to which you would specially direct their attention.

SECTION XIII.

1. Is it a sufficient definition of good discipline to say that "it is the power exercised by the teacher over the children?" Give some distinguishing marks of good discipline.

2. Show that what is called stupidity in children may arise from faults on the part of the teacher. Name some of the faults.

SECTION XIV.

1. Describe the successive steps by which you would proceed to teach mental arithmetic to a class of children.

2. What companionship had you with your scholars out of

school hours in their games, walks, etc.? Of what advantage is such companionship, &c., to teachers and scholars?

SECTION XV.

1. What drill or similar course of exercise was used in your school? State the good effects of such exercise both on body and mind.

2. If you have ever seen a gymnasium, state the effects intended to be produced by the exercises on different parts of the human frame.

SECTION XVI.

1. What are the principal faults of questioning that produce a habit of guessing in children? Show the bad effect of such a habit, and give illustrations from your own experience in teaching geography.

2. Name some of the chief causes of truancy arising from faults in the teachers or parents of children. What steps were taken in your school to acquaint parents with irregularity of attendance?

How were truants punished?

APPENDIX III.

QUESTIONS ON SCHOOL MANAGEMENT SET AT RECENT GOVERNMENT EXAMINATIONS.

SCHOOL DISCIPLINE.

1. By what means do you propose to gain an influence over your school, to repress that which is objectionable, and to encourage all that is noble and good?

2. What principle would you adopt to enforce honesty, truthfulness, and kindness amongst the children in your school?

3. What kind of children give most trouble, and how are they best kept in order?

4. What do you consider the uses of a play-ground, and how would you endeavour to make it subservient to the discipline of a school? To what extent (if any) would you take a personal part in the children's play?

5. By what exercises are habits of attention best cultivated?

6. (*a*) Write an essay upon the duties and indispensable qualities of an Elementary Teacher; (*b*) the personal habits which ought to be cultivated; (*c*) the faults which have to be guarded against, and the examples that should be set.

7. What rules were employed in your school to carry out the regulations of the Code that "reasonable care should be taken to bring up children in habits of good manners, of cheerful obedience to duty, and of truthfulness?"

8. By what arguments would you impress upon children the evils resulting from (*a*) wanton mischief, *e.g.*, throwing stones at telegraph wires, &c., or (*b*) petty thefts of school money, or (*c*) bullying younger children.

READING.

1. What method should be adopted in teaching little children to read? Explain fully the method.

2. What are the chief difficulties in giving a reading lesson to a class of children from six to eight years of age? How should these difficulties be overcome?

3. A reading lesson is often made to consist of explanation of difficult words, spelling, exposition of the meaning of a passage, reading *proper*, and questioning. In what order would you take these divisions, and what time would you

assign to each in a reading lesson to boys of Standard IV.? Give your reasons.

4. Describe the manner in which you have been accustomed to conduct a reading lesson. Do you let the children read simultaneously, or only singly? How do you correct mistakes, and how do you endeavour to make the children understand what they read?

5. Give instructions as to a pupil teacher on the management of a class in reading.

6. What is the object of simultaneous reading? How may its defects be supplied?

7. What do you understand by *expression*, *emphasis*, and *intonation* in reading?

8. Explain how the reading of dialogue and recitation may be employed to remedy want of intelligence in reading.

WRITING

1. What are the first lessons in writing that you would give to young children?

2. Describe first lessons in penmanship. What must receive chief attention?

3. What use would you make of the black-board for teaching writing? In what classes would you use it?

4. What are the chief and commonest faults in writing to which the teacher should direct his attention?

5. For what reasons should paper be used instead of slates in the higher classes of schools? With what standard would you begin the transition, and how would you facilitate it?

6. What are the chief difficulties to be encountered by a child beginning *small-hand* copies? How would you deal with them?

7. Give some distinguishing marks of good *large-hand* writing.

8. State clearly the method by which writing should be taught to infants.

ARITHMETIC.

1. A class can multiply by numbers up to nine (inclusive). What intermediate steps of reasoning and practice are needed that they may be able to multiply intelligently by such a number as 67?

2. Describe clearly the method by which children should be taught simple subtraction and illustrate it by an example. On what principle do you select this method?

3. Suggest three ways of working the following sum: £339.

11*s*. 2¾*d*. × 145, and discuss the merits of each method as to simplicity, brevity of working, &c.

4. Show that the difference between long and short division is one of *form* only and not of principle.

5. The rule of multiplication by a fraction is "Divide by the denominator and multiply the result by the numerator." Explain the rule as you would to a class.

6. Distinguish between numeration and notation, and give your method of teaching them.

7. By what method would you teach "*rule of three*" sums?

8. Explain the method by which you would teach compound addition to a class of children who have no knowledge of arithmetic beyond simple rules, and state the plan which you adopt for teaching the backward children in a class.

GRAMMAR, GEOGRAPHY, AND COMPOSITION.

1. State fully the purposes for which a black-board may be used in geography lessons.

2. What simple method would you adopt for giving a class some correct idea of the magnitude and measurement of the earth? Explain in simple language the terms "latitude" and "longitude."

3. Explain simply the causes of day and night and of the seasons of the year, and describe any good apparatus which you know of for illustrating your explanations.

4. What order should be followed in teaching the parts of speech? Give your reasons.

5. How would you teach grammar in an Elementary school?

6. What general rules of composition would you give to a class which was required to write out from memory the substance of a short story?

7. What do you mean by "teaching" composition and how may it be best taught?

8. A complaint is frequently made that geography, as taught in schools, is confined to a list of capes, heights of mountains, &c. How far are such lists useful, and for what purpose? Illustrate from your knowledge of British capes and mountains.

HISTORY.

1. Explain why biographies of eminent persons are more suitable for children than the histories of institutions.

2. What is the best method of teaching history?

3. How was history taught, if taught at all, in your school? What text-books were used, and what time was given to the subject?

4. Give the substance of Herbert Spencer's remarks on the teaching of history.

OBJECT LESSONS.

1. What is the advantage to young children of having object lessons on such subjects as a spider, wool, sugar? Enumerate the qualities or peculiarities in each case to which you would specially direct attention.

2. Explain the term notes of a lesson. State clearly the principles upon which they should be drawn up.

3. What are the characteristics of a good object lesson?

4. To what points would you give your attention if required to criticise a lesson?

5. Give a full account of any oral lesson that you remember to have given. What preparation did you make for it? What apparatus had you, and what use did you make of the blackboard?

6. What are the most judicious lessons for gallery teaching? What limit (if any) should there be to the variety of age and intelligence in children for a gallery lesson?

7. What illustrations would you prepare for a lesson on *printing type*, and for a first lesson on *mountains?*

8. What are the results to be obtained in an object lesson by the enumeration of the characteristic qualities of an object?

ENGLISH LITERATURE.

1. Name two prose authors, and two poets whose works you consider suitable for boys of Standard V. and VI. Give reasons for your selection in each case.

2. Write down any English poem you may remember, and put as many questions on it as you possibly can. State your general purpose in the questioning.

3. Give an easily intelligible exposition, as you would to a class of children, of the following stanza:—

> "Beneath these rugged elms, that yew tree's shade,
> Where heaves the turf in many a mouldering heap,
> Each in his narrow cell for ever laid,
> The rude forefathers of the hamlet sleep."

APPENDIX IV.

INSTRUCTIONS TO HER MAJESTY'S INSPECTORS ON THE EXAMINATION AND INSPECTION OF SCHOOLS.

The Education Department has, since the issue of the Mundella Code, in a most praiseworthy manner, by a series of circulars, addressed to Her Majesty's Inspectors, attempted to establish some measure of harmonious uniformity in the manner in which these gentlemen discharge their official duties. These circulars, however, are not merely rule-of-thumb directions for the guidance of Her Majesty's Inspectors, but contain important information to every teacher under government inspection.

The circular bearing date 9th August, 1882, rises high enough to be considered a valuable contribution to the principles and practice of teaching, and from the spirit of helpfulness which breathes through it a few of its more important suggestions are herewith appended, in the hope that they may add to the value of this Manual, and still further assist students and assistant masters in the study of school management.

These extracts we shall arrange in the manner in which the logic of this Manual has been constructed with a view to systematic guidance and direction.

INFANT SCHOOLS AND CLASSES.

"A good infant school should provide a regular course of simple conversational lessons on objects and on the facts of natural history, and a proper variety of physical exercises and interesting employments.

In the best schools the list of collective lessons is prepared by the head teacher three months in advance, and is entered in the log-book.

If the infant department contains children between seven and eight years of age who are in the First Standard the course of lessons should include simple recitation and lessons in geography or elementary science to correspond to the class-subjects intended to be taken up in the Boys' or Girls' school.

Mechanical occupations are of little or no value unless they

furnish real training in accuracy of hand and eye, and *develop intelligence and obedience.*

STANDARD SUBJECTS.

Reading.—The Code requires that in all standards higher than the second, three reading-books shall be provided. In Standards I. and II. two ordinary reading books may be used.

In Standards V., VI., and VII. books of extracts from standard authors may be taken, though such works as *Robinson Crusoe,* voyages and travels, or biographies of eminent men, are to be preferred.

It should be considered a grave fault if children have been allowed to read the same lesson so often as to learn it by heart, and to repeat it without any but occasional glimpses at the book.

Writing.—In Standard I. it should at least be bold and legible, and should be sufficiently large to show that the child is acquainted with the proper forms and proportions of letters.

In Standard II. greater importance should be attached to evenness and uniformity, and to proper spaces between the words.

In Standard III. greater readiness should be expected in writing. In Standard IV. and those above it writing should be running, free, and symmetrical, as well as legible and clear.

In Standard V. the passage selected for writing from memory should be an anecdote occupying from ten to fifteen lines of ordinary length, and containing some sufficiently obvious *point* or moral. Neither accuracy in spelling nor excellence in writing should secure a pass, unless the exercise is an intelligent reproduction of the story. The writing exercise prescribed for Standard V. may be altogether, and must be to a certain extent, an effort of memory; that for Standard VI. is the earliest exercise in composition required in the Code as part of the writing exercise; and no child ought to pass who does not show the power to put together in grammatical language, correctly expressed, and, if required, in the form of a letter, a few simple observations on some easy subject of common and familiar experience.

In Standard VII., in order to warrant a pass, the theme should exhibit something more of structural character and arrangement, the sense should be clear, the expressions fairly well chosen, and the writing, spelling, and grammar free from ordinary faults.

MENTAL ARITHMETIC.

This is a new requirement. It is a class exercise; its object being to encourage dexterity, quickness, and accuracy in dealing with figures, and to anticipate by means of rapid and varied oral practice with small numbers, the longer problems which have afterwards to be worked out in writing. It is obvious that this general object cannot be attained if the exercises are confined to a few rules for computing "dozens" and "scores," such as are often supposed to be specially suited for mental calculation. Practice should be given in all the ordinary processes of arithmetic, *e.g.*, in Standard I., addition, subtraction, and multiplication, with numbers up to 50, and money up to 2*s.*: in Standard II., all the four rules, with numbers up to 144, and with money to 10*s.*: in Standard III., easy reductions; and in Standard IV., simple exercises in fractions founded on the multiplication table, and on the aliquot parts of £1, of a yard, and of a pound avoirdupois. It is often found a help in calculation if the dimensions of the schoolroom, the playground, and the desks, and the weight of a few familiar objects are accurately known and recorded, and occasionally referred to as standards of measurement.

CLASS SUBJECTS.

English.—The general object of lessons in English should be to enlarge the learner's vocabulary and to make him familiar with the meaning, the structure, the grammatical and logical relations, and the right use of words. Elementary exercises of this kind have an important practical bearing on everything else which a child learns. The recitation of a few verses of poetry has been prescribed in every standard, and it will be the duty of the teacher to submit to you for approval on the day of inspection a list of the pieces chosen for the ensuing year. It is not necessary that the required number of lines should be taken from one poem; they may be made up from two or more, provided that each extract learned by heart has a completeness and value of its own, and is understood in relation to the story or description of which it forms a part. The extracts should be simple enough to be pleasing and intelligible to children, yet, in Standards III. and upwards, sufficiently advanced to furnish material for thought and explanation, to improve the taste, and to add to the scholar's store of words.

From the first the teaching of English should be supplemented by simple exercises in composition: *e.g.*, when a word is defined the scholar should be called on to use it in a sentence of his own; when a grammatical principle is explained he should be asked to frame a sentence showing how it is to be applied; and examples of the way in which adjectives are formed from nouns, or nouns from verbs, by the addition of syllables, should be supplied or selected by the scholars themselves. Mere instruction in the terminology of grammar, unless followed up by practical exercises in the use of language, yields very unsatisfactory results.

Geography and Elementary Science.—The Code recognizes as the means of instruction in geography and elementary science, reading books, oral lessons, and visible illustrations. But it does not prescribe the exact proportions in which these means shall be employed for each standard and for each subject. Those proportions should be determined partly by the special plans and aptitude of the teacher, and partly by other considerations. The best reading-books for higher standards are those which are descriptive and explanatory, are well written, and suitably illustrated, and contain a sufficient amount and variety of interesting matter. When these conditions are fulfilled, and the reading lessons are so supplemented by good oral teaching as to enable the scholars to pass the prescribed examination well, the requirements of the Code will be satisfied, even though the course of lessons in the reading book does not correspond in all respects to the year's work of a particular standard.

In teaching geography, good maps, both of the county and of the parish or immediate neighbourhood in which the school is situated, should be affixed to the walls, and the exact distances of a few near and familiar places should be known. It is useful to mark on the floor of the school-room the meridian line, in order that the points of the compass should be known in relation to the school itself, as well as on the map.

SPECIFIC SUBJECTS.

Specific subjects cannot be taken up before a scholar has passed the Fourth Standard; and that English, Geography, including Physical Geography, History, and Elementary Science are recognized as class subjects. If these subjects are simply and thoroughly taught the scholars will form those habits of exact observation, reasoning, and statement, which are needed for the intelligent conduct of life. 'In ordinary circumstances the scheme of elementary education as now laid down by the Code, may be considered complete without the addition of specific subjects. It is not desirable, as a general rule, that specific subjects should be attempted where the staff of the school is small, or the scholars in Standards V.–VII. do not form a class large enough to justify the withdrawal of the principal teacher from the teaching of the rest of the school: in this latter case they would derive more benefit by being grouped with the Fourth Standard for class subjects. The pecuniary loss entailed by the exclusion of a few boys from the study of specific subjects will be abundantly compensated by the greater success in other subjects, and especially by the higher merit grant reserved for more thorough teaching generally.

MERIT GRANT—EXCELLENT SCHOOLS.

A thoroughly good school in favourable conditions is characterized by cheerful and yet exact discipline, maintained without harshness and without noisy demonstration of authority. Its premises are cleanly and well-ordered; its time-table provides a proper variety of mental employment and of physical exercise; its organization is such as to distribute the teaching power judiciously, and to secure for every scholar—whether he is likely to bring credit to the school by examination or not—a fair share of instruction and attention. The teaching is animated and interesting, and yet thorough and accurate. The reading is fluent, careful, and expressive, and the children are helped by questioning and explanation to follow the meaning of what they read. Arithmetic is so taught as to enable the scholars not only to obtain correct answers to sums, but also to understand the reason of the processes employed. If higher subjects are attempted the lessons are not confined to memory work and to the learning of technical terms, but are designed to give a clear knowledge of facts and to train the learner in the practice of thinking and observing. Besides fulfilling these conditions, which are all expressed or implied in the Code, such a school seeks by other means to be of service to the children who attend it. It provides for the upper classes a regular system of home-exercises and arrangements for correcting them expeditiously and thoroughly. When circumstances permit it has also its lending library, its savings-bank, and an orderly collection of simple objects and apparatus

adapted to illustrate the school lessons, and formed in part by the co-operation of the scholars themselves. Above all, its teaching and discipline are such as to exert a right influence on the manners, the conduct, and the character of the children, to awaken in them a love of reading, and such an interest in their own mental improvement as may reasonably be expected to last beyond the period of school life.*

APPENDIX V.

REGISTRATION.

1. The Code requires that before any grant is made to a school the Education Department must be satisfied that suitable registers are provided, accurately kept, and periodically verified by the managers (Articles 8 and 96*c*), and again under Article 115 the grant may be reduced upon the Inspector's report for faults of registration.

2. In every school there should be (1) a register of admission, progress, and withdrawal; (2) registers of daily attendance for all scholars; (3) a book of summaries. These registers must (Article 8) be provided by the managers out of the funds of the school, so as to be the property of the school, and not in any sense of the teacher.

ADMISSION REGISTER.

3. The *Admission Register* should be kept exclusively by the head teacher, and made up at least once a week. Successive numbers should be allotted to the children on their admission,

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* Attention may be usefully recalled to the following extract from the Code of 1881:—

"The inspector will bear in mind, in reporting on the organization and discipline, the results of any visits without notice made in the course of the school year, and will not interfere with any method of organization adopted in a Training College under inspection if it is satisfactorily carried out in the school. To meet the requirements respecting discipline the managers and teachers will be expected to satisfy the inspector that all reasonable care is taken, in the ordinary management of the school, to bring up the children in habits of punctuality, of good manners and language, of cleanliness and neatness, and also to impress upon the children the importance of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act."

so that each child may have its own number, which it should retain throughout its school career. A child who returns to school after an absence of any duration would resume its original admission number. The name need not be re-entered in the Admission Book if the child is re-admitted in the course of one school year.

4. No child's name should be removed from the register on account of absence for any period less than six weeks (except in case of death) unless the managers have ascertained, or the school attendance officer reports, that the child has left the school or neighbourhood.

5. This register should show distinctly for each child in the school (*a*) its number on the register; (*b*) the date of its admission or re-admission, day, month, and year; (*c*) name in *full*, Christian and surname; (*d*) the name and address of its parent, or guardian; (*e*) whether exemption from religious instruction is claimed; *(*f*) the exact date of the child's birth, day, month, and year; *(*g*) the last school (if any) which it attended before entering this school; *(*h*) the highest standard in which it was there presented; (*i*) the successive standards in which presented in *this* school; (*k*) the date of leaving.

6. When several children of the same name attend they may be distinguished thus:—"John Jones (*a*)," "John Jones (*b*)," &c.

7. This register should have an alphabetical index.

ATTENDANCE REGISTER.

8. *The Attendance Registers* must *be marked every time that the school meets*, however small the number of children present, and all attendances so marked must be taken into account. They should show the daily and weekly attendances of every scholar, beginning with the first day of the school year (Article 22) and continuing to the end of the same.

9. Adequate time for marking these registers should be provided for in the time-tables, from 5 to 10 minutes or more, according to the number of scholars.

10. In mixed schools the boys should be entered in the upper part of a page, the girls in the lower, leaving a space between them.

11. On the outside of the cover of each register should be legibly written the name of the school, and the year, also the department (boys, girls, mixed, or infant, as the case may be)

and the class or classes to which it belongs. All registers should be paged.

12. There should be columns for each child's admission number, for its name in full, and its age last birthday, and columns for all the weeks in the year, which should always be dated at their head with the day and the month. One also for the morning attendances and another for the afternoon attendances of every day, with a place at their foot for adding them up. A column for school pence received in each week is not unfrequently added to the attendance columns, but as this is apt to cause confusion in the additions, both of the pence and attendances, the pence columns had better be kept separate, unless entries be made in them in red ink. There should be a column for the entry at the close of each week of the total attendances made by each child during that week, and at the end of the register columns to sum up the total attendances of each child during the year. The Code requires a separate register for half-timers. The register for each class may be marked by the pupil-teacher (if he have completed his second year) having charge of the class, but the head teacher will be held responsible for its being regularly and properly kept.

Marking the Registers.

13. In marking the attendance registers the following rules should be observed: (1) the registers must be marked and, excepting marks cancelled under 10 *infra*, be finally closed at least two hours before the termination of the time given to the secular instruction at each meeting of the school, and at the time specified on the approved time-table; (2) after the registers are closed no child may be marked; (3) children must be marked at each meeting of the school, (4) in ink, never in pencil inked over afterwards; (5) presence must be marked with a long stroke, thus /, or \ ; (6) absence must be marked with an "a;" (7) there must be no dots; (8) no erasures, if any error has been made it must be corrected by a footnote; (9) no blanks; (10) if a child leaves before the two hours of secular instruction expire, its mark for presence should be cancelled by another stroke across it, thus ×, and the total attendances for that meeting corrected by placing under them—1, —2, as the case may be; (11) registers must be original, and not copied from slates, papers, &c., on pretence of keeping them clean, or any other plea; (12) the number of attendances made by the class should be entered at the foot of

the column every morning and afternoon at the time for closing the registers; (13) the number of attendances made by each child during the week must be entered; (14) when a half or whole holiday occurs, or on the occasion of days set apart for special inspection, under section 76 of the Education Act (when the meetings and attendances are *not* to be registered for the purpose of annual grants), a line should be drawn down the whole length of the column or columns; (15) for longer periods "holiday" should be written across the columns.

14. At the foot of the attendance columns for each week, or in some place specially provided for them in the registers, should be entered: (*a*) the number of times the school was open, morning and afternoon; (*b*) the total number of attendances made by all the children on this register during the week.

15. At the foot of each pence column the total amount of pence received during the week.

SUMMARY.

16. The *Summary* should contain (1) the weekly entries of the attendance of each class transferred from the class registers every week into appropriate pages, and the average attendance for each week; (2) at the completion of the year the annual averages for the whole school should be struck and entered of boys and girls separately; (1) under 3, (2) between 3 and 7, (3) above 7, and (4) above 3, and the highest weekly average noted; (3) the summary should be clear, and should at once show the results asked for in the Managers' Return, Form IX.

17. In this book the duplicate examination schedules and copies of the returns in Form IX. should be preserved, together with a list of scholars qualified to be presented but not presented, with the reasons for their not being presented, and likewise the scholars presented a second time in the same standard, with the reasons for their being so presented.

GENERAL.

18. The managers' return (Form IX.) will contain a certificate that the registers have been checked at irregular intervals, and at least once in every quarter by the managers. To check the registers the managers, or some one deputed by them, should visit the school without previous notice after the registers ought to be closed, and ascertain that the number of attendances

marked tallies exactly with the number of children then present. An entry should also be made in the log book and in the registers at the time of checking them; they should also be signed at the same time by the teachers responsible for them.

19. *The managers' return should show by separate entries the number of admissions and re-admissions in the course of the first and second halves of the school year respectively.*

20. *Attendance* registers, when filled, should be put away and preserved for at least *ten* years. Admission registers and summaries should never be destroyed.

21. The above rules are intended for day schools, but should be applied as far as possible to evening schools.

22. My Lords do not at present insist upon uniform registers as a condition of annual grants, but they trust that by the co-operation of the managers of schools such an extent of uniformity may be gradually introduced as to make the adoption hereafter of a uniform system of registers a matter of little difficulty.

APPENDIX VI.

LATEST INSTRUCTIONS TO HER MAJESTY'S INSPECTORS OF SCHOOLS RESPECTING VISITS TO SCHOOLS AND MODE OF EXAMINATION.

The following extracts from a recent Circular Letter are of great value, especially to young teachers, in guiding and directing them in many points of ordinary school work and routine, and are supplementary in every detail to those embodied in Appendix IV. A careful study of them will give a teacher much healthy information, and will largely aid him in the arrangements necessary for the annual visits of Her Majesty's Inspectors. Much friction and vexation and no little disappointment might certainly be avoided if the following extracts were carefully read, and the suggestions thrown out carefully followed.

(*g*) Where the infants exceed 15 on the books, the mistress should, as a rule, give not less than an hour each day to them.

READING.

7. (*a*) Before disallowing a book used for Standard work, or as a reading book in Class subjects, the Inspector should consult the Senior Inspector of his Division.

(*b*) In reading books, 40 lessons and not less than 80 pages of small octavo text should be required in Standards I. and II., and not less than 60 lessons and 120 pages in higher Standards.

(*c*) The same book should not be used in the lowest class of a department for older children and in the highest class of the corresponding infant department.

(*d*) The same reading lessons should not be allowed in following years when Standards IV.–VI. are grouped for teaching.

(*e*) The number of reading lessons is to be considered rather than the number of books, so that a long book of 240 pages may be reckoned as two books.

(*f*) In testing the intelligence of the reading, frequent questions should be given both to the class and to individuals on the meaning of what is read. But when the reading is itself fluent and tolerably expressive, it is not needful to address a question to every separate scholar for the purpose of awarding a "pass."

(*g*) A year's reading in Standard VI. may be reduced to 1500 lines, if a long play of Shakespere is selected.

(*h*) Knowledge of the matter of the History Readers need not be required for a "pass" in reading in Standards III. to VII., but should be taken into account for the merit grant.

WRITING.

9. (*a*) The rule as to the disallowance of any copy-book in use in a school, is the same as that given in paragraph 7 (*a*) above.

(*b*) In rural districts, where the standards for exemption from attendance are low, and many of the children go to work very early, it is important to encourage the use of the pen as soon as possible. Accordingly when managers, in the exercise of the discretion given to them in the foot-note to Schedule I., prefer the scholars in Standards I. or II. should work the exercises on paper, the fact should count in favour of the school in awarding the merit grant.

(*c*) Copy-books should contain examples in large hand. Copy setting on the blackboard, with simultaneous class lessons in writing, should be encouraged.

(*d*) The employment of the teacher to give out dictation exercises may be allowed at the discretion of the Inspector.

ARITHMETIC.

12. (*a*) A "pass" in arithmetic is to be regulated as follows:

Boys.—One sum correct + a second sum correct, or two with slight errors.

Girls.—One sum correct + a second sum correct, or with slight error.

(*b*) But if easier questions are given to the girls, they should work correctly in the same proportion as boys.

(*c*) When tables are required, an adequate knowledge of them is to be held equivalent to one correct sum.

(*d*) Knowledge of the reasons of processes and mental arithmetic are to be considered in estimating the intelligence of the teaching for the merit grant, but not in passing the individual scholar.

(*e*) Sums should be orally dictated in Standards I. and II. In higher Standards cards may be used.

(*f*) All cards are to be submitted for approval to the Senior Inspector of the Division.

CLASS SUBJECTS.

14. In the examination of class subjects, as well as of singing and needlework, the practice of testing the results by sample, as described in paragraphs 14, 17, and 25 of Circular 212, may be generally adopted, except in very small schools, and in cases in which there is any doubt or hesitation respecting the award or disallowance of the grant. If a sufficient number of questions is put to scholars in different parts of the school or class and a good proportion of the answers are satisfactory, it may safely be inferred that the subject has been properly taught.

16. (*a*) The maximum number to be permitted in a group may, when desired, be 40 instead of 30.

(*b*) Where there is a Seventh Standard there must always be two groups in geography in the upper division of a school.

19. (*a*) The following variations are allowed in the second class subject:

(i.) Elementary science in lower division (Standards I.–III. or I.–IV.) and geography in upper (Standards IV.–VII. or V.–VII.).

(ii.) Geography or elementary science in Standards I.–IV., and history in V.–VII.

(*b*) Reading books are to be required in geography and elementary science for all Standards above the second, and a general knowledge of the matter is to be taken into account. The conditions respecting the length and contents of these books follow the rules laid down for ordinary reading books in paragraphs 7 (*b*), (*d*), and (*e*).

(*c*) The course of object and elementary science lessons in the lower Standards should, when possible, be preparatory to the specific subjects, if any, intended to be taken up in the Fifth Standard.

(*d*) To obtain the mark "good" for geography the scholars in the upper division should be required to have prepared three maps, one of which, selected by the Inspector, should be drawn from memory on the day of inspection.

(*e*) The mark "good" should never be given if the Standards above the Third fall below "fair," even though they form a small minority in a school otherwise well taught.

NEEDLEWORK.

22. As a rule needlework Standards should be identical with those in the three elementary subjects, but exceptions may be allowed where good reason is assigned.

SPECIFIC SUBJECTS.

23. Any Inspector who desires aid in the examination in a specific subject with which he is not acquainted should apply to the Senior Inspector of his district.

MERIT GRANT.

29. (*a*) In assessing so much of the Merit Grant as depends on the condition in Article 109 *b*, 3, my Lords wish you to be mainly guided by the quality of the elementary work, and not by any rule based upon a fixed percentage of passes, the special function of which is to determine the rate of examination grant under Article 109 (*e*).

(*b*) With a view to the formation of an accurate estimate of the quality of the work in elementary subjects, it would be an advantage in marking the schedule to distinguish good from bare passes by using different marks, viz., a stroke [/] for a bare pass, a cross [X] for a good pass. The duplicate schedule should contain, as at present, no other record than the mark (O) indicating failure.

(*c*) It is not necessary to insist on the taking up of one class subject in order to entitle a school to be marked "good;"

but where everything else in the school is praiseworthy, and circumstances are unfavourable to the teaching of a class subject, that mark may be awarded.

(*d*) The mark "excellent" should not in any but very exceptional cases be given to a school in which no class subject is attempted.

(*e*) In Welsh-speaking districts the scholar's knowledge of English is to be considered.

(*f*) The penalty for neglect in supplying proper buildings, books, maps, and other material appliances, should consist in reduction or suspension of the general grant (Article 115) and not in withholding the merit grant.

REGISTRATION.

36. With regard to registration, it is thought better to wait for a longer experience of the working of the New Code before laying down any general rules.

WITHHOLDING CHILDREN FROM EXAMINATION.

40. Managers are now instructed (Form 8) to prepare, before the Inspector's visit, lists of exceptional cases with a brief statement of the reasons for absence, or for withholding scholars from examination. A mere general allegation of dulness or incapacity should not be accepted unless, on seeing the child, you are satisfied that he ought not to be examined. Nor should any fixed proportion of exceptions be allowed as a matter of course in any case, since in a school in ordinary conditions such exceptions should be very few, and, in circumstances which are specially unfavourable, the number of legitimate excuses may sometimes be large. You will judge of each case on its own merits before entering the mark "excused" (E) or "not excused" (N. E.) on the examination schedule.

RE-PRESENTATION.

41. Children who have failed in two subjects are permitted to be presented again in the same Standard. But it is not always desirable that advantage should be taken of this permission. The interests of the child, rather than the possible effect of his examination on the grant, should be the first object of consideration. And in most cases a scholar who has just failed is more likely to succeed next year, if advanced with the rest of the class, and encouraged to do his best, than if he is required to remain in a lower Standard and to be

employed on the same set of exercises for the twelve months longer.

PUPIL-TEACHERS.

43. The subject of pupil-teachers, and the best means of ascertaining that they are properly trained in the art of teaching, was considered at several of the conferences, and some useful practical suggestions were made; *e.g.* it was proposed that besides hearing the pupil-teachers teach and question their classes on the day of inspection, and when visits are paid without notice, it would be well to call for the note-books, exercises, and notes of lessons which they had prepared. It will also be desirable to inquire how often criticism lessons have been given or model lessons by the head teacher in the presence of the pupil-teachers. It was generally agreed that the practice of gathering the pupil-teachers together after the inspection of the school was over, not only for the purpose of hearing their reading and recitation, but also in order to show them the written answers which they had recently produced at the collective examination, to point out their mistakes and tell them how their exercises had been marked, was very valuable and ought to be generally adopted.

PREPARATION FOR INSPECTION.

HINTS FOR YOUNG TEACHERS TAKEN FROM OFFICIAL DOCUMENTS.

INFANT SCHOOLS OR CLASSES.

5. (*a*) In order to satisfy fully the requirements of Art. 106*b*.2, the mistress, early in the school year, should draw up and enter in the Log Book a course of thirty or forty collective lessons, *e.g.*, on animals; on such objects as coal, glass, and salt; on common employments, as paper-making, cotton mill, house-building, one of the trades of the district being chosen in preference; on form and colour, food, plants, and clothing; on simple facts in nature, as rain, frost, the seasons; on familiar scenes in common life, as the post-office, a shop, a railway, washing, or harvest. Each of these should in the course of the year be given two or three times, and on the day of inspection the Inspector may select one or two lessons to be given by the teacher in charge of the class; then, at the point

of the lesson where questioning begins, he may himself intervene, and ascertain how far the lesson has had intelligent effect.

(*b*) It is desirable to recommend teachers (especially assistants and pupil-teachers) to preserve in a book the notes of such lessons for future expansion and reference.

(*c*) The general rule of examination for infants should be by age, it being understood that such classification may be departed from for purposes of examination as well as for teaching when good reasons are given.

(*d*) The manual or other employments which best satisfy the third of the requirements of Art. 106 *b*. are modelling, simple geometrical drawing, weaving, plaiting, building with cubes, drill, singing, recitation, or other exercises, such as will relieve the younger children, especially during the afternoon, from the strain of ordinary lessons, and train them to observe and imitate.

(*e*) The exercises usually known as those of the Kindergarten may be so used as to fulfil the purpose of this third requirement, but are not indispensable.

(*f*) The cases in which a Second Standard may be allowed in an infant school are those in which (1) the arrangements for dividing the departments of a school are strictly temporary, or (2) the infant school is at an inconvenient distance from the school for older children.

SUGGESTIONS TO TEACHERS RESPECTING THE SELECTION OF SCHOOL AND CLASS BOOKS.

OFFICIAL REGULATION.

Some questions having arisen with respect to the Rules of the Department on the subject of reading-books, my Lords desire to explain in fuller detail the intention and operation of those rules.

1. In a Circular addressed to the Inspectors (No. 187) on the 14th of September, 1880, the following paragraph occurs in relation to books used in class subjects:—

"As to the length of the reading-books, if from 52 weeks we deduct 6 for holidays and 6 for revision of work before the annual examination, 40 weeks may be considered as available for each subject, *i.e.*, at least 80 lessons, oral or reading, should be given in that time. It may be assumed that for the lower Standards, in which lessons must be repeated to fix their substance in the memory of the children, the reading-books should contain at least 40 sections, and for the higher Standards at least 60, each section containing sufficient matter for a reading lesson of due length."

And in the Circular of August 6th, 1883 (No. 228), it is further stated of reading-books generally:—

"Forty lessons and not less than 80 pages of small octavo text should be required in Standards I. and II., and not less than 60 lessons and 120 pages in higher Standards."

2. The object of these regulations was to secure a sufficient amount and a convenient subdivision of the reading matter in a school-book, and to guard against the practice of employing books with contents so meagre that they are, in fact, learned in the course of the year by heart, and are no true test of a child's ability to read. Two pages were fixed as the minimum for an effective reading lesson. The division of a reading-book into sections for the purposes of instruction should be determined in part by the nature of the subject, and in part by the class in which the book is intended to be used. Longer lessons than those of two pages are clearly desirable for the elder children. Readings in narrative, poetry, or general literature may properly be longer than those which deal with technical matter in science, history, or geography. It is most undesirable that all books in use in schools should conform exactly to one type in regard to their length or arrangement, without reference to the proper treatment of each subject, or the literary unity of each volume.

3. My Lords desire to point out that the employment of reading-books in teaching geography and science was not designed to supersede oral instruction in those subjects. It was presumed that the oral lessons, whether descriptive of the physical and political features of a country by the aid of a map or model, or illustrative of some physical law by experiments actually performed before the class, would precede the reading lesson; and that the reading lesson immediately following would serve to give greater definiteness to the teaching, and to invest the matter already given with greater interest. This object may be attained in the case of geography through some graphic, well-written tale of travel or adventure; in the case of science through some description of physical facts which do not admit of being completely illustrated by experiment. If a so-called reading-book is allowed to degenerate, wholly or in part, into a mere manual of statistical or other information, it fails to fulfil its intended purpose; for however valuable it may be as a compendium of facts for reference, it affords little or no help in forming a good style of reading.

4. In interpreting these instructions with a view to sanctioning or disallowing any reading-book which may be submitted by school managers for approval, you are requested to bear in mind:—

(1.) That any books which have been already sanctioned, and are on the whole well suited for their purpose, may remain in use until the stock possessed by the managers or School Boards is exhausted, even though they do not strictly conform to the rules which have been laid down in the instructions.

(2.) That a book which contains the required amount of pages, if it is easily divisible into a reasonable number of lessons, and if it is otherwise suitable, shall not be disallowed on the ground that it contains a number of chapters which falls a little below the prescribed number of lessons.

(3.) That the rule respecting the number of separately printed lessons shall not apply to continuous narratives, plays, or poems, such as are often in use in the upper Standards in a school.

(4.) That when a longer book is used for instruction in a class subject, managers shall be at liberty to indicate to the Inspector the portion of the book to which the examination in that subject, so far as the book is concerned, shall be restricted; provided it be of suitable length for the required number of lessons.

(5.) That in any reading-book not used for instruction in a class subject, it shall not be required that its contents be "got up" or made the subject of examination; but only that such questions on the meaning of the language be given as will test general intelligence.

(6.) That in schools or classes composed exclusively of half-time scholars, it shall not be necessary to require that the three reading-books prescribed by the Code in the higher classes be read through in the course of a year, but only such parts as can be conveniently taken within the limited time.

(7.) That if the passage for dictation be selected from a geographical or historical reading-book, errors in the spelling of proper names shall not be counted in determining a pass in writing.

(8.) That in Standard V. and upwards the dictation exercise is not necessarily to be taken from a reading-book used in the class. Provided that it is an exercise appropriate to the standard, H.M. Inspector may select the passage at his own discretion.

(9.) That a book containing twice the amount of matter prescribed for a single year may remain in use during two years, *e.g.*, for both the fifth and sixth Standards; but may not count as two books for use in a single class in one year.

(10.) It is no part of the duty of the officers of the Department to prescribe or to recommend particular books for use in schools. But H.M. Inspector may, with the concurrence of the Senior Inspector of his division, disallow the use of any books which are plainly unsuitable, and which do not conform to the requirements of the Code, as interpreted by the instructions.

(11.) I have only to add that, as the Department is repeatedly asked to define what is meant by "Large Hand" as required for copy-books in Schedule I. of the Code, it may be taken as a general rule to mean writing in which the lines are not less than three-eighths of an inch apart: but that, provided the writing is "bold and legible" and the proper forms and proportions of letters are duly taught (Circular 212, par. 9), my Lords do not desire to prescribe to managers a uniform rule, either to the exact size and style of the handwriting, or as to the methods employed in teaching.

7. My Lords desire to leave the largest freedom to authors, publishers, managers, and teachers in regard to the production and use of school-books adapted to different classes of learners, and varied from time to time so as to suit the advancement of knowledge and the improvement in educational methods. Provided that the general conditions here laid down as to the length, variety, and divisions of reading-books are substantially, though not literally, fulfilled, H.M. Inspectors will be at liberty to sanction any reading-books which seem to them to have been carefully chosen, having due regard to the value or literary style of their contents, to the character of the school, and to the qualifications and just preferences of the teacher.

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